

DISSERTATION

THE AFFECT AND EFFECT OF INTERNET MEMES: ASSESSING PERCEPTIONS AND
INFLUENCE OF ONLINE USER-GENERATED POLITICAL DISCOURSE AS MEDIA

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ABSTRACT

THE AFFECT AND EFFECT OF INTERNET MEMES: ASSESSING PERCEPTIONS AND INFLUENCE OF ONLINE USER-GENERATED POLITICAL DISCOURSE AS MEDIA

In our modern media environment characterized by participatory media culture, political internet memes have become a tool for citizens seeking to participate actively and discursively in a digital public sphere. Although memes have been examined as visual rhetoric and discursive participation, such political memes' effects on viewers are unclear. This study responds to calls for research into effects of internet memes. Specifically, this work represents early, foundational research to quantitatively establish some media effects of internet memes as a form of political, user-generated media. This study focuses on memes' influence on affect, as well as perceptions of internet memes' persuasiveness to look for evidence of motivated reasoning in consuming political memes.

To establish effects of viewing political memes, an online, post-test only, quasi-experimental design was employed to test the relationships between viewing political internet memes, affect, and perceived persuasiveness of memes. To better attribute results to specific genres (e.g. political vs. non-political) and attributes of memes (i.e., the role of images), the main study ($N = 633$) was comprised of five experimental conditions – to view either liberal political memes, conservative political memes, text-only versions of the liberal memes, text-only versions of the conservative memes, or non-political memes – with a sixth comparison group, who did not view any stimuli at all. Before running the main study, a pilot study ($N = 133$) was conducted to determine which memes to use as the stimuli in the main study, based on participants' ratings of the memes' political stances and similarity to their text-only versions.

Results indicate that political internet memes produce different effects on viewers than non-political internet memes, and that political memes are subject to motivated reasoning in viewers' perceptions of memes' persuasiveness. Specifically, viewing political internet memes resulted in more feelings of aversion than did viewing non-political memes, and political internet memes were rated as less effective as messages and their arguments were scrutinized more than were non-political memes. However, non-political memes were significantly discounted as simple jokes more than were political memes. This suggests that participants understood political memes as attempts at conveying arguments beyond mere jokes, even if they were unconvinced regarding memes' effectiveness for doing so.

Additionally, participants whose own political ideology matched that of the political memes they saw, as well as those who stated they agreed with the ideas presented by the memes, rated the memes as being more effective as messages and engaged in less argument scrutiny than did participants whose ideology differed from that of the memes, or than those who disagreed with the memes. This finding indicates that memes are subject to processes of motivated reasoning, specifically selective judgment and selective perception. Political memes' visuals, or lack thereof, did not play a significant role in these differences. Finding the memes to be funny, affinity for political humor, and participants' meme use moderated some of these outcomes.

The results of this study suggest that political internet memes are a distinct internet meme genre, with characteristics operating in line with other humorous political media, and should be studied for effects separately or as distinguished from non-political memes. The results of this study also indicate that user-generated media like political internet memes are an important influence in today's media environment, and have implications for other forms of political outcomes, including concerns about opinion polarization, civic discourse, and the public sphere.

The study presents one method for conducting quantitative research with internet memes, including generating a sample from existing internet memes, and for considering political memes' effects as media. Suggestions for future research building on this work are offered.

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1 INTRODUCTION

Because of advances in technology affordances, the corporate producers commonly called “the mainstream media” are no longer the sole creators of news and entertainment media content (e.g. Van Dijk, 2009). Instead, digital media technologies and social networks allow regular people to contribute to the general media environment through their online activities—and those contributions have the potential to reach a wide audience. In a culture where “going viral” is a measure of value, content from relatively anonymous or little-known sources can be widely consumed by internet users (Jenkins, Ford & Green, 2013; Wasik, 2009). However, little is currently known about how different kinds of user-generated media content influence the people who view them, especially when the content deals with real-world issues such as politics.

Internet memes are one form of user-generated, digital media content that may have real-world effects on those who view them. Memes—often light-hearted, often referencing pop culture, usually created anonymously by regular people, and circulated online—matter for politics in part because they may influence how people feel about important political issues. How people feel is vital to engagement with information, especially political information, because it changes what issues they pay attention to, influences how they look for political information, affects how they process that information, shapes how they view the world, and ultimately, can change a range of political activities (e.g., Wyer, 2004).

When considering the relationships between citizens’ media use and their political decision-making, it is easy for memes to get overlooked because they may not appear to be substantive content. Although according their formal definition memes are units of culture passed on by imitation (Blackmore, 1999), this study uses the term as defined by popular usage,

which generally refers to user-generated digital content that incorporates humor and visuals and that is distributed to a wide audience via informal networks. Internet memes – or rather, their creators through memes – frequently lampoon, or champion, political actors, and issues, often using parody and humor.

A common form of meme resembles a hastily constructed cartoon, with block text and edited or combined images. This type of meme can be snarky, silly, witty, angry, and poignant in tone. This type of visual meme is not a single image, however. The popular use of the term generally refers to the *idea* behind a specific collection of texts that are distinct but refer to one another through use of common themes and/or tropes (Shifman, 2014), such as the “one does not simply” concept in Figure 1.

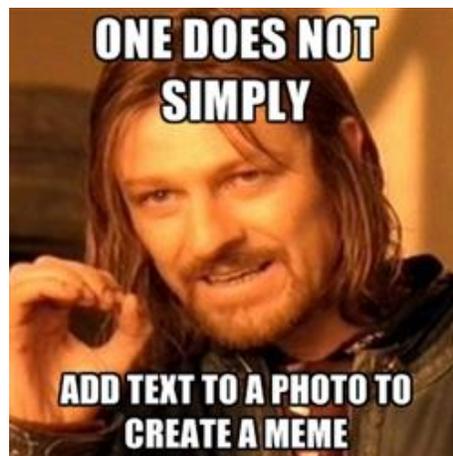


Figure 1. A typical meme.

A “single” meme in this sense therefore refers to the range of ways that a given image is combined with text, rather than one specific combination of image and text. Even if a person never views all the different versions of a meme, the meme itself is created with its companions in mind (Shifman, 2014). In this way, memes are larger than one annotated image. For example, the “texts from Hillary” meme used the same image—Hillary Clinton texting on her cell phone—in combination with dozens or even hundreds of different other images and captions,

such as one showing President Obama texting “Hey Hil, whatchu doing?” and Clinton’s answer, “Running the world” (see Figure 2).

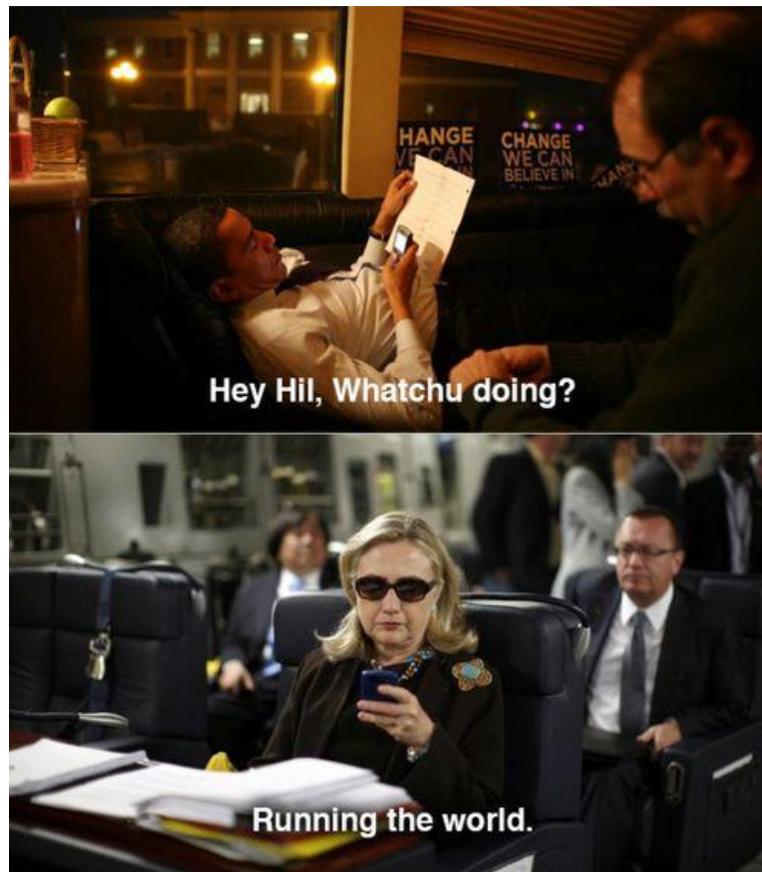


Figure 2. A meme showing Hillary Clinton using her cell phone.

Despite their frequent mix of pop culture and politics, memes’ influence as potentially persuasive media has received scant attention from scholars. Two exceptions to this are Ryan Milner (2012), who hints at this potential in his work on memes as discourse, and Ross and Rivers (2017), who describe memes’ discourse as a form of political participation. Moreover, little current research has approached memes using quantitative methods, and memes’ effects on political outcomes have not been empirically established. Are political internet memes so many echoes in an empty chamber, or are they influencing people in some way? In a detailed explication of internet memes, Shifman (2014) called for future to research to begin to establish

political internet memes' effects and measurement of those effects. This study answers that call for further exploration of political memes' effects. In doing so, this study represents a foundation for understanding the implications of viewing political internet memes in today's media environment.

1.1 Memes as Influential Political Communication

For at least 100 years, scholars have sought to understand how media content influences people, particularly in political contexts. Despite the wealth of knowledge produced in this line of research, it is important to note that user-generated content could differ from traditional media content in terms of effects on viewers.

Research has demonstrated that people use memes to contribute to public conversations about political events going on in the world around them (Milner, 2012; Milner, 2013; Shifman, 2014). For example, in the second presidential debate of 2012, Republican nominee Mitt Romney responded to a question about his hiring process for female job candidates by explaining, "I went to a number of women's groups and said, 'Can you help us find folks?' and they brought us whole binders full of women." This comment sparked a "Binders Full of Women" meme, which included a range of images such as women's legs poking out of Trapper Keeper binders or other images with textual references to the comment (see Figure 3 next page). Many of these memes in turn referenced other memes, including combining the "binders" concept with the images and concepts used in the Texts from Hillary memes. A Tumblr blog that curated the "binders" meme had thousands of hits before the televised debate was even off the air (Kwoh, 2012).

When considering memes as a form of user-generated political communication, it is helpful to turn to political science scholarship on the public sphere to place memes in context.



Figure 3. Examples of the “Binders Full of Women” meme

The public sphere is a normative theory regarding citizens’ discourse (Habermas, 1989). The theory is not without controversy, but its value for media scholars is that it pushes scholars to examine citizens’ talk about issues that affect them in their role as citizens, including how well media support that talk (Calhoun, 1992).

Some scholarship regarding discourse in the public sphere emphasizes the importance of everyday talk. This type of talk is considered distinct from the rational debate originally envisioned as constituting political talk within the public sphere, but is still influential on political outcomes (Mansbridge, 1999; Mutz, 1998; Mutz, 2006). Additionally, some of this work suggests it is better to conceptualize public spheres as civic cultures in which media can be considered opportunities for learning citizenship (Miegel & Olsson, 2013).

In some political science research on participation, certain citizen activities such as voting or attending a rally are characterized as being different from discursive activities such as everyday talk (e.g., Mutz, 2006; Wyatt, Katz & Kim, 2000). Additionally, online forms of participation including clicking, liking, or tweeting via social media are also framed as separate from—and at times less valuable for democracy than—their offline counterparts (e.g., Gustaffson, 2013). Memes may challenge these distinctions, as current meme research suggests that memes can be a discursive form of political participation that occurs alongside or concurrently with offline political movements or events (Shifman, 2014). The literature on political participation, especially as it relates to social media use, is helpful for understanding how these concepts have traditionally been used in the literature and for highlighting where memes may challenge them.

Internet meme scholarship thus far has framed memes as a product of participatory media culture, in which individual contributions are highly valued. This research is related to work on the public sphere in that both are concerned with how individuals engage with one another, but participatory media culture emphasizes user-generation of media content as opposed to rational debate as the mechanism for that connection (Bennett, Freelon & Wells, 2010; Williams, 2012). In scholarly research, memes have largely been studied by examining their creators and characteristics. However, this focus limits what one can know about memes' effects on those who view them. Scholarship on social media use and user-generated content can provide some enlightenment here; however, it is important to note that memes themselves are not social networks, which is the focus of much social media research. Still, the scholarship on participatory media culture and related concepts such as pop culture and “prosumers”—people

who both generate and consume media—are helpful for understanding changes in the media environment of which memes are representative.

Some meme research has described memes as discourse (Milner, 2012). Additionally, theories of visual communication rooted in rhetoric demonstrate that visual texts can be used to convey or contain specific arguments (e.g., Helmers & Hill, 2004; Kjeldsen, 2000). Because memes are highly visual and intertextual, meaning they reference multiple texts and events (D'Angelo, 2009), the visual communication literature is helpful for understanding how these qualities of memes work together to make memes persuasive political communication, or discourse. Like other forms of visual political communication, such as political cartoons, memes contain visual arguments that viewers can perceive and that may influence other types of political participation.

The discourses of memes often combine pop culture with politics and are likely to be consumed as entertainment. Research on political entertainment has demonstrated effects on a variety of outcomes, including knowledge, perceptions, beliefs, and attitudes regarding political issues, figures, and institutions, as well as on measures of efficacy and trust (e.g., Baumgartner & Morris, 2006; Becker, 2011; Kushin & Yamamoto, 2010; Taniguchi, 2011; Tisinger, 2010). A subset of this literature demonstrates that political satire—including that in digital formats—can influence perceptions of and feelings toward political actors (e.g., Baumgartner, 2008; Esralew & Young, 2012; Hoffman & Young, 2011; Rill & Cardiel, 2013; Young & Hoffman, 2012). Overall, the political entertainment literature suggests that entertainment is serious business when it comes to effects on viewers.

Political entertainment has also been shown to shape viewers' mental models about politics. Mental models are representations of people's general ideas of how specific phenomena

work, and are continually updated as the individual encounters additional information (Roskos-Ewoldsen, Davies, & Roskos-Ewoldsen, 2004). Mental models can function like schema, or heuristics in cognitive processing (Mastro, Behm-Morawitz, & Ortiz, 2007). Some mental models research is interested in how media content shapes people's views of the world and how it operates. Because memes intersect pop culture and politics, they may be contributing to individuals' mental models about the political events, issues or figures depicted—or even what political participation entails. Thus, memes may have effects on political opinions or behaviors via these mental models.

How memes contribute to mental models is likely influenced by how an individual interprets or perceives the meme's argument. Because memes are complex visual and written texts, understanding memes requires some “decoding” of the meme on the part of the viewer (Hall, 1997). People may decode (interpret) the same meme differently because each brings individual experiences with them when they view the meme. Variation in argument interpretation may be explained by the theory of motivated reasoning. This theory states that people seek out and interpret information in such a way that the information they encounter upholds their beliefs (Taber & Lodge, 2006). This process can further influence individuals' beliefs about the world, including perceptions about the causes and outcomes of events, by encouraging biased information searching (selective exposure) and analysis or interpretation (selective perception) (Lebo & Cassino, 2007). Motivated reasoning can help explain why memes may influence people differently because it emphasizes the role of attitudes and beliefs in message processing.

Along this line, it is important to look at how exactly memes as messages influence people who view them. Because of their visual and potentially entertaining nature, affect is a

useful place to begin in trying to understand memes' potentially persuasive effects. Importantly, both mental models and motivated reasoning are theorized to influence affective responses to information (Mastro, Behm-Morawitz, & Ortiz, 2007; Taber & Lodge, 2006). Political psychology research demonstrates that affect can influence other politically related outcomes, such as information seeking, participation, and opinion formation (Wyer, 2004). In the literature, affect is operationalized in a variety of ways and generally includes a wide range of variables, from emotions to feelings, including efficacy, and even attitudes and beliefs (Lang & Dhillon, 2004; other cites). This literature demonstrates that affect and cognition are intricately linked, particularly in political contexts (Redlawsk, 2002; Wyer, 2004). As a result, it may be difficult to remove emotion from the study of politics.

Although affect is often approached as a moderator or mediator for other political outcomes, change in affect can also be considered an outcome itself on par with these more traditional political outcomes, such as opinion formation and evaluation, as it can be considered separately from these other outcomes. Indeed, affect is demonstrated to be a key element of modern politics. If memes can be demonstrated to influence a person's affect, including their emotions, feelings, or attitudes, this is an important step toward understanding how such types of user-generated media content have implications for politics and the persuasive power of memes. Additionally, this approach also has implications for what constitutes an effect of viewing media by elevating affect as an outcome of media consumption. Based on the preceding, the guiding research question for this dissertation is:

How does viewing political internet memes influence people's affect and perceptions of political issues?

1.2 Study Approach

To address this question, the dissertation used an online, post-test only, quasi-experiment. The quasi-experiment quantitatively measured effects of viewing memes on affect and viewers' perceptions of memes' messages. Politically liberal and politically conservative memes were compared, as were a text-only presentation format of the same concepts encompassed in political memes (visual/text meme vs. text only version of the meme). Political and non-political memes were also compared in terms of their effects on affects and perceptions of persuasiveness. Thus, the study examined the specific impacts of memes' visual/textual form and political nature on affect and perceptions of memes' persuasiveness. In doing so, this study also examined the role of motivated reasoning in processing memes' visual arguments through a comparison of memes that align and do not align with participants' political ideology (e.g. liberal vs. conservative argument).

This project approached memes as a package of image and text to assess the cumulative effect of all the meme's elements or qualities, rather than separating out the influences of individual components such as color, text content, font, source, etc. Memes' level of humor, intertextuality, visual nature, and user-generated status are all elements that potentially give memes their persuasive power. Only the impact of the visual characteristics and political stance of the meme were specifically tested in the present study, though humor was also found to play a role.

1.3 Summary

Research tells us that light-hearted, emotional media content such as political satire or entertainment matters when it comes to how people participate in and perceive politics. It is also clear that old boundaries distinguishing media content types, as well as media producers and

consumers, are increasingly permeable. Internet memes themselves have dual functions as user-generated everyday talk or discourse and as consumable, user-generated media content. By using memes as a tool to explore these blurred distinctions, the study examined the implications for political outcomes resulting from viewing these forms of user-generated media content.

Specifically, the current study explored affective responses resulting from the consumption of memes and the role of motivated reasoning in the interpretation of memes' arguments. In doing so, this project aims to call attention to the real-world influence of this hybrid form of digital everyday talk and user-generated media.

This dissertation outlines the key literature on the public sphere, political entertainment, and memes that form the foundation of the study in Chapter 2. In addition, it reviews research on mental models, motivated reasoning, and affect. Chapter 3 of this proposal details the methods used in the study, including the analytical approach. Chapter 4 and Chapter 5 present the results, and Chapter 6 discusses how the results of this study contribute to literature and theory and outlines suggestions for future research. The post-test questionnaires, stimuli, and other materials can be found in the appendices.

2 LITERATURE REVIEW

2.1 Media and Politics

The relationship between media and politics has long been of interest to scholars. Political impacts of media exposure have been examined across media, contexts, and outcomes, such as the effect of negative newspaper coverage on readers' sense of trust and political effectiveness (Miller, Goldenberg, Erbring, 1979); the impact of viewing network television news on opinion change during a presidential campaign (Bartels, 1993); and the relationship between listening to talk radio and voting behavior (Bolce, De Maio & Muzzio, 1994). Of relevance to the current study, editorial cartoons that combine text and image to make political statements or arguments have also been examined for their influence on viewers' opinions (Brinkman, 1968). As entertainment-oriented content often found in the opinion section of newspapers, cartoons can be considered part of newspaper editorials, which have been demonstrated to provide cuing information for voters as they make their voting decisions (Dalton, Beck & Huckfeldt, 1998). Although some scholarship in this area has argued for limited or minimal effects of media, others counter that observed minimal effects may be the result of measurement error (Bartels, 1993), not indicative of the true relationship between media consumption and citizens' political decisions, opinions, and behaviors.

Entertainment media and popular culture are increasingly examined for the impact consumption of such media upon citizens and politics. A wide variety of political entertainment television programs have also been examined for their effects on political outcomes. Holbert (2005) outlined a typology of political entertainment media, which can include everything from talk shows and soft news to satirical sitcoms and traditional satire. Delli Carpini (2012) has

argued that by the 2008 presidential election, these various forms of entertainment media—along with their intersection with mainstream news—were as influential as traditional news sources. In making this argument, Delli Carpini (2012) pointed to a growing body of research within political entertainment scholarship that suggests entertainment media that are politically relevant can affect “attitudes, opinions, knowledge, and behavior in much the same way as traditional news and public affairs broadcasting has been found to do” (2012, p. 13). This suggests that scholars should no longer set aside entertainment media as inconsequential for politics.

Studies of media and politics are approached from a variety of perspectives. Some studies regarding media content and politics make use of traditional media effects theories, which are theories about the ways in which media content and use shape individuals’ views of the world. For example, cultivation is a long-term media effects theory that has traditionally been applied to television; it states that the more an individual watches television, the more they believe social reality matches what they see on TV (Gerbner, 1998). Other studies regarding media and politics look at how media facilitate opinion formation and citizen communication. Studies in this area suggest that partisan media can reinforce the attitudes or beliefs of extremely partisan citizens to make them even more extreme, which in turn contributes to a polarized public (e.g. Levendusky, 2013). Polarization in a democracy can inhibit discussion among citizens, and so is often considered a negative outcome of viewing media by political communication scholars.

This normative view of polarization as a negative characteristic stems from theories of discursive democracy rooted in the public sphere (Habermas, 1989), in which citizens hear one another out in a process of reasoned and rational debate. Specific characteristics of an individual medium or media content might contribute to the persuasiveness or effectiveness of those media, including qualities such as source credibility; whether the content is textual, visual, aural, or

audio-visual; or even perceived persuasive intent of the media, although a *perceived* persuasiveness is not necessary for persuasive effect to occur. Effects of media may vary by individual differences or characteristics, such as political ideology, attitudes, or even demographics.

Historically, with the rise of new communication media has come renewed attention to the relationship between media and politics. In recent years, the internet has generated new avenues of research, in part because of the medium's ability to allow individual people to connect with others and with those in power (e.g. Stromer-Galley & Bryant, 2011). Because the internet is thought to facilitate communication among citizens and between citizens and those in power, the internet is often explored for the relationship between internet use and political engagement. Bimber (2012) has argued that the nature of the internet as a networked medium may lead to increased effects of networks in political contexts. People's expectations or understanding of what constitutes civic engagement and participation may also be changing due to internet and social media use (Bennett, Freelon, Hussein & Wells, 2012; Bimber, 2012). Practically speaking, the internet—and social media in particular—has become a medium people turn to do politics. The Pew Research Center found that 39% of Americans of voting age used social media for political purposes, operationalized as “liking,” sharing, or reposting political links, or following the social media accounts of elected officials and candidates during the 2012 presidential election (Rainie, Smith, Lehman Schlozman, Brady & Verba, 2012).

The affordances of the internet as a communication medium means a shift in the type of media content available to people, which may in turn alter political outcomes. Bennett et al. (2012) pointed out that the rise of participatory media has allowed “non-technical end users” (p. 130) to produce and widely disseminate media content online. Bennett et al. (2012) noted that

scholarship about these forms of user-generated media content is embryonic and has thus far primarily focused on assessing the quality of online talk in terms of opinion content (as in the Habermasian public sphere), or the electoral content of user-generated video and effects on civic engagement among youth. Although traditional forms of mass media such as newspapers, radio, and television have been examined for influences on viewers and a variety of political outcomes, less is known about user-generated media content when it comes to how such media content effects or influences those who view them, particularly in terms of political outcomes. It may be that user-generated content has different effects on viewers than traditional forms of media due to perceived quality, credibility, or other considerations; alternatively, effects could be due to a characteristic such as still vs. moving images, and as such could be replicable across types of media content.

Because online user-generated creations such as memes can be both a type of individual participation and widely distributed media content, this literature review will first define and conceptualize internet memes, then situate political internet memes within the context of everyday discourse in the public sphere. After a discussion of political participation online, an overview of political entertainment research as it may relate to the study of internet memes is provided. Next, a discussion of the interpretation strategies that may be used by viewers of memes to understand the visual arguments embedded in memes is offered, followed by discussion of potential effects of memes, and concluding with specific research questions and hypotheses for this study.

2.2 Internet Memes: Definition and Conceptualization

The term “meme” is appropriated from Richard Dawkins’ coined word for of a unit of culture passed on by imitation (Blackmore, 1999, p. 6). In Dawkins’ view, nearly everything

cultural – from architectural styles to the “Happy Birthday song – is a meme; Blackmore (1999) took this even further by claiming that humans are essentially passive vessels through which memes replicate. However, the word as it has come to be applied to a specific type of internet ephemera, implies human behavior that is far from passive. Internet memes can take many forms, including – but not limited to – still images that resemble editorial cartoons and parody videos of the latest hit pop song. Shifman (2014) proposes that internet memes be defined as distinct from other memes. Specifically, internet memes are

(a) A group of digital items sharing common characteristics of content, form, and/or stance, which (b) were created with awareness of each other, and (c) were circulated, imitated, and/or transformed via the Internet by many users. (Shifman, 2014, p. 41)

In other words, an internet meme consists of many texts or items that are united by a common theme or trope. The individual examples of a meme reference one another, and are constructed out of references to other media content from pop culture or the news. Shifman (2014) has proposed that internet memes are uniquely suited for study from a communication-oriented perspective because of the connection memes make between individuals and collective efforts and media content. Shifman argued that “in an era marked by ‘networked individualism,’ people use memes to simultaneously express both their uniqueness and their connectivity” (2014, p. 30). Humor, as expressed through these creative practices of imitation and transformation, is central to many memes.

A growing field of research has examined the internet meme separately from other memes and demonstrated that these internet memes have implications for identity building, public discourse, and commentary (e.g. Kuipers, 2002; Knobel & Lankshear, 2007; Milner, 2012). Memes have been considered as public discourse (e.g. Milner, 2012), for their functions as rhetoric (e.g. Anderson & Sheeler, 2014), and for their memetic qualities (e.g. Shifman, 2014). This scholarship has tended to focus on the reasons people create and share memes, rather than

why people view memes. However, based on interviews with LOLcat meme sharers, Miltner (2011) suggested that some memes are shared to express emotions. Participants in that study described spending time finding the perfect meme to suit an interpersonal situation. Therefore, it is possible that people seek out memes as type of emotional release. Emotion may also be an important motivator for sharing memes (Guadagno, Rempala, Murphy, & Okdie, 2013). A foundation of research has been laid for meme scholarship that gives clues about memes' qualities, their importance within a media culture, and memes' uses and functions within that culture. Thus, some cultural consequences or impacts of memes have been established in the literature. What this research does not tell us, however, are the effects or influential outcomes of these memes, particularly on the audiences who view them.

Before continuing further, it is useful to explicate what is meant in the present study by a political internet meme, as not all internet memes are political. Bauckhage (2011) defines political memes as those that are activist, intending to “promote political ideas or malign political opponents” (p. 3). For the purposes of the present study, political memes will be further defined as those specifically and clearly depicting or referencing known political figures—elected officials, candidates, political parties, iconic government buildings—or specific actions or policy issues of the executive, legislative, or judicial branches of federal or state government within the United States—such as the 2013 government shutdown, or specific legislation (e.g. “Obamacare”) or social policies that result in legislation (e.g. welfare). Otherwise activist memes that do not specifically reference political figures, issues, or government actions will not be included for the purposes of the present study.

2.2.1 Memes in participatory media

A growing field of research positions memes as a social phenomenon of a modern participatory media culture, which values creative contributions as participation (Bennett, Freelon & Wells, 2010). Bennett, Freelon and Wells (2010) note that the internet and other networked communication technologies “allow for multidirectional pathways of user-driven production, consumption, appropriation, and pastiche” (p. 393), and therefore have important implications for civic engagement. The authors list characteristics of participatory media cultures, including: relatively low barriers to artistic expression and civic engagement, support for creating and sharing those creations, a belief that individual contributions matter, and a degree of social connection with other members in the culture. Additionally, such cultures tend to form in opposition or contrast to traditional one-way mass media formats (pp. 401-402).

In a participatory media culture, “spreadable” media content is the measure of cultural value (Burgess, 2008, p. 192). It is through a cycle of “imitation, adaptation, and innovation” (p. 106) that user-generated content finds meaning and longevity in a participatory media culture. These traits of participatory media cultures are appropriate to consider in contemporary studies of internet-based civic engagement and political discourse, as a participatory media culture brings with it new questions about “the interplay between the mass popular culture and local audience members” (Williams & Zenger, 2012, pp. 2). Some have claimed that the rise of new social media and the attendant participatory media culture has new implications for civic identity and discourse (Bennett, Freelon & Wells, 2010; Jenkins, 2006). Some (Hands, 2011) have argued that the opportunities for networking enabled by the digital age are particularly suited for communicative action.

In many ways, work on participatory media cultures resembles the work on the public sphere. Both areas of scholarship are concerned with how technology fosters citizens' involvement in the world around them through the creation of conceptual spaces for citizen engagement. Whereas the public sphere has tended to emphasize talk or discourse among citizens, participatory media culture scholarship emphasizes participation through online practices. As internet meme scholarship demonstrates, these practices can be a type of discursive participation, but only the scholarship draws imperfectly from democratic theory to frame that discussion. For example, in Milner's dissertation on internet memes as discourse, he claims that memes are evidence that "participatory media provide enrichment to the public sphere" (2012, p. 60). It is less clear how participatory media culture and the public sphere are interrelated. It could be that participatory media cultures create new public spheres; it could also be that participatory media cultures change expectations for a public sphere and what qualifies as discourse, as in Dahlgren and Olsson's (2007) suggestion of civic cultures as the public sphere. More work is needed to explicate this relationship.

Although internet memes are colloquially understood as "faddish joke[s] or practice" (Burgess, 2008, p. 101), an increasingly growing body of research indicates that these memes may in practice serve to fill deeper needs than a simple laugh (Miltner, 2011). Kuipers' (2005) examination of "internet disaster jokes" in the wake of the September 11 terrorist attacks describes a "new genre" of "cut-and-paste" internet jokes (p. 70) that emerged as in response to the attacks — an event that was, for most Americans, experienced through the mediation of the press and broadcast coverage. Kuipers (2005) describes the "disaster jokes" as a new genre of humor that plays with media culture through collage or bricolage techniques to recycle American popular culture into new forms. This form of multi-layered, referential humor remains central to

the ethos of internet memes as a creative practice (Miltner, 2011; Milner, 2012). Kuipers (2005) speculates these jokes may be both commentary on public discourse about the attacks, as well as rebellion against official discourse (p. 83). A few studies have examined the creation and spread of memes as a performance of identity in a participatory culture. In a study about memes and affinity spaces on the internet, Knobel (2006) noted that, among bloggers, being the first to pass on the freshest content confers a certain degree of prestige or insider status on the blogger. Additionally, meme success was tied to its markers of belonging to a sub-cultural or affinity group (p. 422). In a world that values individuality as part of a collective, contributors to these memes can at once highlight both their individuality as producers of internet content, and establish their connection to the group and to a broader culture and a group by demonstrating understanding of norms in meme making.

The notion of meme as discourse is central to political internet memes, as evidenced in work by Milner (2012), who examined internet memes as a method of understanding discourse and identity in a participatory media culture. That study examined memes as a transformative literacy practice, and found evidence for “a positive relationship between pop savvy mediation and vibrant political commentary” (p. 300). Milner noted that participants can have a stake in public discourse about events in the world around them by learning to appropriate and transform cultural texts, “using the pop as a launching point to the political” (p. 305). Building on this discursive understanding of memes in work by Milner and others in participatory media studies, Shifman (2014) identified three basic functions political internet memes fill for their creators: Persuasion or political advocacy, grassroots action, and expression and public discussion. Memes in non-democratic societies also serve as a form of subversion against a controlling regime according to Shifman. Shifman (2014) noted that although it is clear memes are expressions of

political opinion, scholars should seek to establish what constitutes an effect of such political internet memes, and how to measure such effects.

The creation and propagation of internet memes is a useful tool for internet users to shape and declare their identity and to participate in discourse related to events in the media both as an individual and as part of a community. More so, it seems that political internet memes may be intended to influence those who view them. Although it is yet unclear what effects these memes have on those who view them, one place to begin is to consider how the characteristics of memes as a form or genre of communication may influence viewers. Because many political internet memes are visual in nature, an examination of visual discourse and visual rhetoric is useful to understand how memes might persuade.

2.2.2 Memes as visual discourse

Products of cultures often come to operate as symbolic artifacts with distinct meanings and practices within that culture (Pedersen, 2008), and this is true within memes, which are created out of appropriation and pastiche in a participatory media culture. Memes may be understood as representational discourse by considering them through the lens of visual rhetoric, which analyze visual artifacts as persuasive messages. Visual rhetoric expands on traditional rhetorical theory of spoken discourse (Foss, 2004) and understands such rhetorical artifacts to be created by individuals to construct meaning (Foss, 2004). Traditionally, rhetoric is “considered to be public, contextual, and contingent” (Kenney, 2002, p. 54), and these characteristics are present in memes. Memes’ visual nature lends itself to several specific rhetorical practices. These include such techniques as: The use of iconic images and intertextual references to multiple texts to create visual enthymemes, in which viewers are drawn into the construction of the argument by cognitively making a connection to fill in the image’s unstated premise (Blair,

2004); the use of tropes such as metaphor or typed personas (Lewis, 2012) across memes also fill an argumentative need; and dialogism through the rhetoric of irritation caused by the juxtaposition of incongruous images the brain must pause to understand (Stroupe, 2004).

Visual communication, including rhetoric and discourse, has been influential to politics and the study of political communication for some time, especially from rhetorical and persuasive perspectives. Abraham (2009) examined editorial cartoons and argued that their visual qualities offer deep reflection on and can orient viewers to social issues. Abraham noted that editorial cartoons' humor, far from being simple, derives from their ability to deconstruct complex ideas using symbolic images (p. 121). Neuberger and Krcmar (2008) argued that editorial cartoons are politically and ideologically charged, and experimentally demonstrated attitude change in participants who viewed such cartoons. Kjeldsen (2000) described how visual metaphor in a political advertisement could make a host of arguments about a candidate's fitness for office.

Some of these same rhetorical characteristics or abilities of other visual political discourse may also be present in internet memes. Anderson and Sheeler (2014) noted that Hillary Clinton herself re-appropriated the Texts from Hillary meme in her earliest foray on the social media site Twitter, a practice Anderson and Sheeler (2014) termed political meta-meming. Political meta-meming occurs when politicians manage their image by attempting to capitalize on existing memes that originated "from outside the sphere of information elites" (p. 225). They argued that the Texts from Hillary meme itself characterizes the postfeminist rhetoric that more broadly shapes U.S. presidential politics today. Williamson, Sangster, and Lawson (2014) examined the "Hey Girl..." meme in which images of actor Ryan Gosling are paired with feminist statements, noting that the originator of that meme intended to educate viewers of the

meme about feminism. They found that men exposed to the meme did endorse feminism more so than men who did not view the meme. Also studying memes, Milner (2013) demonstrated that memes were used as a sort of online parallel to protests the Occupy Wall Street movement, used to make arguments about the economy and American society; in many ways memes became some of the more memorable aspects of those protests.

Based on the above, we can see that internet memes are a form of participatory discourse, and may serve rhetorical or persuasive ends for their creators and others. Rather than their visual nature being a hindrance to their potentially persuasive power, memes—like their cousins, editorial cartoons, and political advertisements—are enhanced by their visual qualities. Memes themselves can contain many visual rhetorical techniques stemming from the intertextual practices of appropriation and juxtaposition used to create them. They can be satirically humorous when referencing political issues or figures, and thereby serve as social criticism. Finally, memes are user-generated. Though they borrow from news media and popular culture in their subjects and form, they are not products of traditional media. Instead, they are non-elite, which seems to have some appeal for politicians trying to manage their images and gain votes (Anderson & Sheeler, 2014). Despite the evidence of their persuasive intent and potential effects, to date memes have primarily been studied in terms of their creators, who embed arguments in the memes, or use memes for specific social and discursive goals within a digital public sphere. There is little scholarship to date regarding how such memes influence those who view them.

2.3 The Public Sphere: Citizens' Discourse and Participation

The public sphere (Habermas, 1989; Habermas, 2006) is a normative theory that describes an ideal way a society *ought* to operate and function; specifically, the public sphere refers to the forum for communicative action—the rational debate and consensus among citizens

Habermas argued was central to democracy (Habermas, 1989). The public sphere exists separately from the private sphere and from the apparatus and forums of the state; it does not exist in a formal structure, but is rather the informal network of private citizens who are aware of themselves as a public. Because the public sphere is a conceptual and normative ideal, the construct itself has been a lightning rod for critique ever since the first translation of Habermas' work into English in the late 1980s. These critiques primarily stem from questions about the public sphere's emphasis on rational public debate, Habermas' sole focus on the bourgeois public sphere, and a depiction of the public as somewhat monolithic (Calhoun, 1992; Roberts & Crossley, 2004).

In mass communication studies, the theory of the public sphere has often been loosely interpreted as saying that the media can support—or constitute—a public sphere by questioning power, informing the citizenry, and offering a place for rational debate. However, Habermas placed the blame for the collapse of the public sphere on modern audio-visual mass media through the replacement of rational debate with consumption of culture (Habermas, 1989). The changing nature of society and of the media, such as the blurring of state and society (Roberts & Crossley, 2004), and the advent of the internet, has renewed interest—and debate—regarding the public sphere and its quality, utility, and relevance to mediated communication (e.g., Butsch, 2007; Lunt & Livingstone, 2013). The rise of the internet has renewed interest in the public sphere because it offers new opportunities for citizen interaction than do the traditional forms of mass media. In 2002, Papacharissi noted that though the internet appeared to promise new ways of communicating and offered new spaces for communication, it could not—yet—be considered a true virtual public sphere, as it did not facilitate rational debate. Although much scholarship regarding the media and the public sphere has futilely sought to identify a public sphere that

meets Habermas' rational debate criteria, there has recently been a turn toward letting go of some of these normative aspects of the public sphere and instead using the construct to focus on understanding citizens' public conversation, as they are "included, abetted or unrestrained by today's pervading media" (Butsch, 2007, p. 9) and the relationship of those conversations to politics and democracy.

One way that scholars have approached the public sphere is to reconsider the role of culture. Rather than viewing cultural consumption as the death knell for rational debate, this perspective promotes the role of culture in politics. For example, cultural consumption may not exclude participation or debate in a public sphere. Dahlgren and Olsson (2007) argue that citizen identity and participation must necessarily be rooted in a specific cultural "milieu of everyday life" (p. 200)—a concept they term civic cultures. They argue that Habermas' public sphere lacks a connection to everyday life and that consideration of civic cultures can serve to link the public sphere and everyday life so that scholars might better understand new ways in which citizens gather. (Dahlgren & Olsson, 2007). Similarly, Miegel and Olsson (2013) argue for understanding media as "an opportunity structure for learning citizenship" (p. 17).

By considering citizens' public conversations, and political engagement or participation as a type of cultural practice within a public context, or sphere, we can see a place for the consideration of user-driven production and consumption in the study of political and civic communication, regardless of the rationality of such contributions. This turn in public sphere research toward civic cultures allows for consideration of an affective component in the study of civic matters (Miegel & Olsson, 2013). Ultimately, the public sphere's true value for media and mass communication scholars may be in the concept's ability to be a "fruitful generator of new research, analysis and theory" (Calhoun, 1992, p. 41) about the public lives of citizens, rather

than as a definitive guide for practice. The public sphere pushes social scientists and critical theorists alike to examine the public role of citizens and how media and technology foster public conversation.

2.3.1 Citizens' everyday talk in the public sphere

Though the public sphere ideal draws clear demarcations—between the public sphere and the private sphere, between rational deliberation about political matters and small talk—as many scholars point out, life doesn't always happen that way. Wyatt et al. (2000) argued that boundaries between private and public spaces and conversations can be blurred when it comes to political talk. A single conversation may encompass a variety of topics, some of which are political in nature and some of which are not. A concept that attempts to bridge these distinctions between private and public, deliberation and conversation, and participation and discourse is the notion of everyday talk (e.g. Mansbridge, 1999; Kim & Kim, 2008). Everyday talk is “nonpurposive, informal, casual and spontaneous political conversation voluntarily carried out by free citizens, without being constrained by formal procedural rules and predetermined agenda” (Kim & Kim, 2008, p. 53). Essentially, everyday talk does not necessarily have an end goal of consensus or action; it can be talk for talk's sake. However, it forms an important part of discursive participation in a democracy (Mansbridge, 1999).

Kim and Kim (2008) argue that everyday political talk fits within Habermas' theory of deliberative democracy through communicative action, whereby citizens achieve mutual understanding: “Everyday political talk, seemingly trivial and irrational as it may be, is the fundamental basis of rational public deliberation” (Kim & Kim, 2008, p. 54). According to Mansbridge (1999), everyday talk produces this foundation through a process or cycle of mutual influence that occurs within the frameworks of media and social networks. Mansbridge reminds

us that “political” can be defined as “that which the public ought to discuss” (1999, p. 214). Essentially, scholars of everyday talk argue that today’s everyday talk might become tomorrow’s topic of public deliberation. Mansbridge argued that such everyday talk, in which a non-activist can “intervene in her own and other’s lives” (p. 218) to persuade “another of a course of action on its merits” (p. 218), can be just as influential as formal debate. According to Jacobs, Cook, and Delli Carpini (2009), everyday talk is a type of discursive participation; its fruit may be deliberative, communicative action as well as participatory, activist work. As it spreads, everyday talk begins to accumulate the weight of the people’s will, so to speak, catching the interest of media and thus spreading even further. In today’s digital environment, that everyday talk includes not only discussions of political topics but also the creation and distribution of political content, include memes. That is, “talk” can be more than simply conversation – it can also include writing blog posts, commenting on news articles, and creating visual content.

2.3.2 Political participation: Online and offline

At times, scholars disagree about whether discourse or other forms of participation are more valuable for democracy. Mutz (2006) characterizes the fundamental differences between the theories of participatory democracy and deliberative democracy as the difference between doing and talking. In making this distinction, Mutz appears to be referring to participation in the sense of taking physical action. Participatory democracy values citizen involvement that encompasses tangible actions—voting, writing letters, stuffing envelopes, perhaps even picketing. Mutz’s argument, to which Jacobs et al. (2009) object, is that deliberative democracy requires people to be open-minded about others’ viewpoints, a characteristic that can dampen activism, or participation. So, although some position deliberation and even public talk as a type of political participation (e.g. Jacobs et al., 2009), others consider it as something separate.

In making these statements, Mutz (2006) places participation and deliberation within the context of social networks. Dahlgren and Olsson (2007) argue that political participation occurs within and is informed by specific civic cultures. Social networks, in turn, are part of and inform those civic cultures. Dimitrova et al. (2011) define political participation as activity affecting, intentionally or not, government action, whether that effect is direct or indirect. Participation outcomes might be operationalized as “intention to participate” in either civic (e.g. volunteering) or citizen-oriented activities (e.g. voting) (e.g. Gil de Zúñiga, Jung & Valenzuela, 2012). Kushin and Yamamoto (2010) define a related construct, situational political involvement, as perceived relevance of or degree of interest in an issue or political social situation at a given moment in time.

2.3.2.1 Online political participation

As previously noted, civic cultures and social networks may play a large role in citizens’ notions of participation. Technological affordances of internet-based media can come to shape larger cultural values regarding how political participation looks in action. Studies of political uses of the internet have highlighted the importance of social interaction for participants in these activities (e.g. Stromer-Galley, 2004). Much research in this area examines the connection between online activity and offline behavior. For example, Gil de Zúñiga et al. (2012) found information seeking behavior on social networking sites to be a predictor of civic and political participatory behaviors, in both online and offline settings. Internet use, such as chat room participation, has been shown to positively influence traditional political participation measures, such as voting (Mossberger, Tolbert & McNeal, 2008). Online participation has often been characterized in the literature in terms analogous to traditional offline participation, such as using the internet to contact an elected official, sign a petition, or work with others to resolve an issue

(Best & Krueger, 2005). Often, this scholarship centers on comparing and contrasting online and offline participation, as in Gil de Zúñiga, Veenstra, Vraga and Shaw's (2010) examination of blog readers' political advocacy, or Best and Krueger's (2005) investigation of predictors of online and offline participation. It seems that online participation may lower the costs (such as time) associated with political participation (Best & Krueger, 2005).

Despite the tendency of much online political participation research to seek out analogous behaviors to traditional offline participation, Shifman (2014) argues that people's perception of what counts as political participation, especially among younger citizens, has expanded to include practices rooted in social media spaces, including commenting, sharing others' content, and creating new content. These types of digital-media-based creations and related activities such as "liking" or joining a Facebook group are often disparagingly referred to as slacktivism (Gustafsson, 2012) or hashtag activism (Poniewozik, 2014). Although digital and social media are recognized to have played a key role for organization and communication in political protests such as Egypt's Tahrir Square (Tufekci & Wilson, 2012) or Occupy Wall Street (DeLuca, Lawson & Sun, 2012), that same digital nature appears to lend itself toward diminishment of those activities as bona fide participation, perhaps due to a perception as being too easy (Gustafsson, 2012). Poniewozik (2014) noted that application of the moniker hashtag activism to these sorts of social media meta-protests conveys a sense of disparagement for "substituting gestures for action, as if getting something trending is a substitute for actually going out and engaging with the world" (para. 4). Arora (2012) argued that the distinction between the realms of online and offline is increasingly blurred, and recent social protests such as those mentioned previously appear to bear this out with intertwined online and offline efforts.

2.3.2.2 Memes as discourse and participation in the digital public sphere

The perceived divide between talking and doing that undergirds critiques of so-called slacktivism or hashtag activism is also at the center of debates regarding deliberative and participatory democracy (Mutz, 2006). Internet memes challenge these distinctions between talking and doing in democratic theory. In some ways, meme creation can be akin to creating a homemade poster and joining a picket line. In the case of the Occupy Wall Street movement, certain memes functioned as grassroots activity, both to rally for and substitute for physical presence in those protests (e.g. Shifman, 2014; Milner, 2013). Meme creation involves the physical use of tools, such as a computer with photo manipulation software, on the part of individuals to create a tangible, if digital, product. Meme participants must then actively share their version of a meme with others—through sites such as 4Chan or Reddit, the meme aggregator KnowYourMeme, Twitter or Facebook—to get social credit and become part of the larger conversation (Knobel & Lankshear, 2007).

On the other hand, memes may also be a type of discursive participation, though they appear to lack a sense of reasoned deliberation. However, like everyday talk, memes can both be reflective of and contribute to larger public discussion about issues at hand. It is important to note that most scholarly works that have looked beyond memes' qualities to their societal functions have framed memes as public discourse (e.g. Milner 2012; Milner, 2013; Shifman, 2014). The physical act of meme-making results in artifacts or texts than can be analyzed as discourse having specific arguments and discursive functions. In examining memes against Kim and Kim's (2008) definition of everyday talk, memes are informal, casual, and spontaneous in the sense that they are typically grassroots, coming from the bottom up, rather than being dictated by some powerful organizing force. However, they are not strictly nonpurposive, or

even free from procedural rules. Arguably, those who create memes have some purpose, even if that purpose is simply personal gratification.

Many memes, particularly those of a political or critical nature, appear to be an attempt to contribute to a larger conversation, and sometimes even shape that conversation, such the one regarding as police abuse of power in Occupy Wall Street as expressed in the Pepper Spray Cop meme series (Milner, 2013). After a University of California, Davis police officer pepper sprayed (presumably) peaceful protestors, a popular meme cut the officer's figure out of resulting news images and juxtaposed it against scenes from history and pop culture to highlight the absurdity of the officer's actions (Milner, 2013). Perhaps most importantly, current research on memes reveals they do appear to have influence in a process that reflects Mansbridge's (1999) conceptualization of a cycle of influence of everyday talk. Popular memes get attention from other news media sources and become part of the larger public conversation around some of these events (e.g. Milner, 2013; Shifman, 2014). For example, during the 2016 presidential election, Democratic candidate Hillary Clinton addressed the so-called alt-right movement and its use of memes like Pepe the Frog as a racist hate symbol, gaining the attention of news outlets like National Public Radio, which then traced Pepe's journey from meme to hate symbol in discussing the rise of the alt-right (Friedman, 2016).

Shifman's (2014) argument that people's perceptions of what constitutes participation have changed could be evidence of a change to the civic cultures through which citizenship is acted out (Dahlgren & Olsson, 2007). Memes provide a way for scholars to trace these relationships among civic cultures, citizens' everyday talk, and politics. In keeping with Calhoun's (1992) suggestion that the public sphere concept pushes scholars to understand citizens' public talk, research examining memes through this framework ought to seek to

understand how this form of digital everyday talk influences those who encounter it. Rather than dismissing the value or influence of memes out of hand, the literature on everyday talk and the public sphere demonstrates an opportunity for scholars to seriously consider memes as participation and persuasive or influential discourse.

2.4 Political Entertainment: Information and Influence

Because most memes are humorous and framed as entertainment, it is important to examine the potential influence of political entertainment on political attitudes, opinions, and behavior. Although a great number of studies have focused attention on the effects of news media as a source of political information, it appears that people, particularly young people, are increasingly turning to a variety of entertainment media for information in addition to entertainment (e.g. Baumgartner & Morris, 2006). Such media might be considered “an important venue of ‘infotaining’ citizens” (Kim & Vishak, 2008, p. 338). Baym (2005) describes this blurring of news and entertainment as a discursive integration— “a way of speaking about, understanding, and acting within the world defined by the permeability of form and the fluidity of content” (p. 265)—with opportunity for innovation in both the creation of media and academic research. Engelstad (2008) argues that by intertwining drama and politics, political entertainment programs appear to present viewers with “behind the scenes” views of real-life politics. It is important to consider political entertainment scholarship in a study of internet memes because they have many characteristics in common with some political entertainment. For example, memes aren’t news, but many political memes contain references to events in the news and prominent people; additionally, memes are often humorous in the way they approach these topics, a quality typically associated with entertainment media rather than news media. Memes also are spread through online spaces associated with entertainment, such as social media

networking sites. Indeed, in dissertation research on political news and Facebook, Anspach (2016) observed that those using social media for entertainment are also increasingly exposed to political information in those spaces and are subject to media effects from that content.

In terms of conceptualization of political entertainment, the literature is not unified about what defines political entertainment. At times, it almost seems as if the concept has been variously defined in the literature to encompass whatever the researcher needs, ranging from prime-time dramas, such as crime dramas (e.g. Taniguchi, 2011; Tisinger, 2010) or *The West Wing* (Holbert et al., 2003), to late-night comedy such as *The Tonight Show* (Young & Hoffman, 2012). Comedic programming is often further categorized. Some scholars prefer to conceptualize everything from newsmagazines to talk programs, including *The Daily Show*, as soft news (Baumgartner & Morris, 2006). Others separate overtly satirical political shows airing on cable—including *The Daily Show* and the *Colbert Report*—into a separate category of cable late-night comedy (Becker, 2011).

Outcome variables that have been studied in the broader political entertainment literature have been perceptions of candidates and salience of caricatured traits of candidates (Baumgartner & Morris, 2006; Esralew & Young, 2012; Holbert et al., 2003), reported intention to engage in political discussion (e.g. Landreville & LaMarre, 2011), and measures of political efficacy, self-efficacy, and political trust (e.g. Becker, 2011). Holbert et al. (2003) used a political TV drama, *The West Wing*, as an experimental stimulus to draw conclusions about the effects on viewers' perceptions of real-life presidents, although Landreville and LaMarre (2011) used the fictional political entertainment film *Man of the Year* to gauge participants' intention to discuss specific political issues. Additionally, Brewer, Young and Morreale (2013) argued that the intertextual nature of press metacoverage about these satirical programs can also influence viewers'

knowledge, opinions, and political trust. This is an important consideration in the modern media environment in which boundaries between news and entertainment, and producers and consumers are increasingly blurred (Jenkins, Ford & Green, 2013). This literature on political entertainment helps us understand that political entertainment can influence a variety of outcomes related to individuals' understanding of politics and of their roles as citizens. Memes as entertainment, then, may have an impact on these outcomes.

2.4.1 Comedic political entertainment

There is some discussion in the literature that satirical or parodying political entertainment (e.g. *The Daily Show*) lends itself to different outcomes than do other forms of traditional, punchline-oriented comedy (e.g. *The Tonight Show*), and so should be classified separately (Hoffman & Young, 2011). Research has shown that political entertainment programs such as *The Daily Show* or *The Colbert Report* have effects on outcomes such as self-efficacy in understanding politics (Baumgartner & Morris, 2006), knowledge acquisition (Young & Hoffman, 2012) and political participation intention (Hoffman & Young, 2011). It should be noted that satire is a distinct type of humor. Compared to traditional late-night comedy, political satire shows have effects like those of traditional TV news; this may be due to these shows having content and a form that mimics cable news shows (Hoffman & Young, 2011). Although this literature argues for clearer definitions of political entertainment types, much of the scholarship in this area does not draw clear distinctions between the specific effects of satire and other forms of humor in political outcomes.

In terms of information acquisition and processing, it may be that the humor in political satire triggers a certain kind of peripheral cognitive processing (e.g. Kim & Vishak, 2008). Although much of this research on political satire appears to agree that late-night political humor

is processed through peripheral, rather than central, route; what is less clear in this literature is why this is so (Gilkerson & LaMarre, 2011; Polk, Young & Holbert, 2009). Additionally, Feldman's (2013) research on knowledge gain and learning about politics from *The Daily Show* found that whether viewers were motivated to watch *The Daily Show* for information or for entertainment influenced how much factual information that person learned from the show. Those who approached the show as news, or as a blend of news and entertainment, expected information to be contained within the program, and so exerted more mental effort to find it. Current events knowledge gain is also the outcome variable of interest in Young and Hoffman's (2012) *The Daily Show* study; the authors speculate that, although the information in such programs may generally lack depth or complexity, that information could have a cumulative effect over time, resulting in better-informed citizens.

Aside from knowledge gain and information acquisition, satirical or comedic programming can contribute to perceptions about politics and political figures. Xenos, Moy and Becker (2009) discovered that *The Daily Show*, and other comedy programs like it, can function as heuristics to "help viewers form opinions consistent with their partisan predispositions and thus make sense of the political world" (p. 2). Esralew and Young (2012) suggest that caricatures of relatively unknown political candidates—in this case, Tina Fey's parody of Sarah Palin on *Saturday Night Live*—can help viewers "fill out" (p. 349) their perceptions of those candidates, as well as render certain traits more salient in viewers' minds. Interestingly, Graber (1988) has argued that what viewers remember from media content are the affective imprints of how they felt from viewing it. Although the specific mechanisms for these observed effects are still open for debate, comedic television programming has serious implications for viewers' knowledge and perceptions of political issues and figures.

2.4.2 Digital political entertainment

When it comes to studies about the effects of viewing political entertainment online, the literature largely focuses on what scholars in this area call digital satire. Baumgartner (2007; 2008) has quantitatively examined digital political satire, such as online, animated cartoons, for their influential characteristics on candidate evaluations. The results of one experiment demonstrated that viewing animated, editorial-style political cartoons online had a negative effect on presidential candidate evaluations. That same study suggested potential positive benefits to political participation because of viewing the animated cartoons (Baumgartner, 2008). Another experiment used an animated video known as “Second Term” from JibJab.com as the stimulus, which was presented as if President Bush was mocking himself. The results demonstrated that viewing the clip resulted in decreased trust in political institutions, but the self-deprecating humor led to increased favorable ratings of Bush (Baumgartner, 2007). A third experiment established that humorous online clips could have a spillover effect from the candidates depicted to other political objects (Baumgartner, 2013).

The Baumgartner studies used professionally produced video clips, including at least one from a Pulitzer Prize winning cartoonist (Baumgartner, 2013), as the experimental stimuli. In this way, the stimuli used for these studies more closely mirror mainstream media content than some online content. It is possible that user-generated satire could produce different effects, in part because of their quality or perceptions of source. Rill and Cardiel (2013) tested this in their study of user-generated satire on YouTube. That study found a weak correlation between watching the user-generated videos and reported candidate favorability and perceived credibility of the incumbent, with decreased favorability toward the challenger. The study found no change in political information efficacy and political cynicism. However, the authors did not provide a

clear description of the videos used as the stimuli in this study other than the fact they were satirical and user-generated; the authors speculate that the lackluster results may be due to a lack of information richness or of source credibility of the stimuli. More work in this area of user-generated political media is needed.

When memes are studied as things people create, such research is likely to focus on those attributes of memes particularly related to the form, such as interactivity, organization, and control (Eveland, 2003). However, when memes are studied as media people are viewing, as this dissertation proposes, the researcher may take a cue from political entertainment research that primarily examines the mediated message for its content and tone and its effects on viewers. The political entertainment research suggests that light-hearted media content can influence people's political understanding and decision-making. Humorous media, especially when it is satirical or parodying, can influence viewers' perceptions of candidates.

However, most of these digital satire studies focus on videos, and so more closely mirror television programs examined in other political entertainment research. The form the media takes may make a difference in effects; for example, whether still images have similar effects to animated ones is less clear. Video and television programs are likely to contain narrative, which may be responsible for some of the observed effects in these studies. It may, however, be possible in experimental research to isolate certain characteristics, like humor, to achieve stimulus equivalency. In a dissertation on soft news, Wilson (2014) tested both a shortened video from *The Colbert Report* and a still image (described as a meme, but different in form from the memes examined in the present study) with a quote from the same episode, on the fiscal cliff. That research found that those who saw a humorous edit of the video felt more informed about the issue than those in the control group, and chose to seek more information about the fiscal

cliff. Like with the video, those who saw the humorously framed still image also reported feeling more informed and spent more time reading about the fiscal cliff than others in the study, suggesting the political humor was the cause.

Media consumption can shape what political issues people care about, the criteria by which they evaluate solutions to issues, how they understand or think about those issues, and how they think politics works within their social reality. Therefore, there is a need to understand the effects of consuming various forms of media on political outcomes, especially as the media environment changes. Answering Holbert's (2005) call to better clarify what types of media content fit the definition of political entertainment, this paper proposes to use still-image memes as a lens to examine how this type of media content may also influence viewers. By drawing from the body of literature on political entertainment, this dissertation will have a foundation to anchor the empirical study of political internet memes.

2.5 Consuming Internet Memes: Decoding the Argument

It may be that not all viewers will take away the same message from a meme. Knobel and Lankshear (2007) stressed the importance of considering social context or practice in the study of memes as a literacy practice: "The Literacy practices of meming also involve people deciding how they will choose to read or interpret a meme and the 'spin' they will give it as they pass it along to others" (p. 221). To understand editorial cartoons, Abraham argues, viewers must "be familiar with conventional meaning of the cultural sources of the symbol" (2009, p. 156). Kuklinski and Hurley (1996) noted that interpretation is central to all communication, and that people interpret messages, especially political messages, through categorization and attribution based on the message source and the individual's own context. Because memes are visual discourse/rhetoric, viewers must interpret them to take away any kind of meaningful message.

The question for academic inquiry surrounding memes' effects then ought to be informed by this process of viewer interpretation.

This process of message interpretation is central to communication generally. Hall (1993) observed that, during the communication process “if no ‘meaning’ is taken, there can be no ‘consumption’” of a message (p. 91). Messages must be “appropriated as meaningful discourse and be meaningfully decoded” (p. 93) before they can have any meaningful purpose. Hall (1993) notes that creators encode information in communication to convey meaning; however, the receiver of the message must have the proper code to decode the information and interpret that meaning. The recipient of the message may not always arrive at the same meaning the creator, or encoder, of the message intended (Hall, 1993). This is especially the case for images, which can also function as coded signs (Hall, 1993) when they are used to express meaning (Hall, 1997). For example, a live television news broadcast often purports to be the real thing, but it can only be a representation of it; those images must still be interpreted (Hall, 1997). According to current meme research, it seems that the code to understanding many memes is a multi-layered understanding of pop culture across genres (e.g., Burgess, 2008; Knobel and Lankshear, 2007; Lewis, 2012; Milner, 2012).

There may be more to the process of meme decoding or interpretation than having a broad knowledge of pop culture, though it certainly is likely to be helpful. When it comes to political internet memes, certainly knowledge, such as of the figures or issues depicted, and political preferences or partisanship may play a role in how a meme is interpreted. However, this process of decoding or interpretation is reminiscent of and likely to be influenced by cognitive processing of information. Beyond knowledge, cognitive processing theories demonstrate the importance of viewer characteristics, such as attitudes, as well as message characteristics, such as

humor or source, can influence message processing or interpretation. Looking at some of these cognitive processes, as well as prior knowledge, in the meme decoding process may help scholars understand the effects of viewing internet memes.

2.5.1 Mental models and entertainment media

Mental models can be broadly defined as representations of “a general idea of a specific phenomenon, as understood by the individual” (Mastro et al., 2007, p. 351). Common examples include how an internal combustion engine or a thermostat work; most people don’t know the technical aspects of how these technologies operate, but they can understand what each does enough to understand the outcome. Wyer (2004) argues that some people form mental representations of information that act almost as narratives for the individual, to help that person remember and make sense of information they have been presented. Roskos-Ewoldsen et al. (2004) conceptualize a mental model as:

A dynamic mental representation of a situation, event or object ... to process, organize, and comprehend incoming information, make social judgments, formulate predictions and inferences or generate descriptions and explanations of how a system operates. (p. 349)

These representations, or mental models, become a framework for people to use in the processing of new information by incorporating or interpreting new information in accordance with it. Yang, Roskos-Ewoldsen and Roskos-Ewoldsen (2004) argue that, because of this, research that incorporates mental models “provides a framework for understanding the effects of media on our perceptions and behavior” (p. 87). In narrative research, mental models, or drawings, can be elicited as a tool for analysis, as they can represent how the viewer processed a narrative. Political memes may thus contribute powerfully to mental models because of their visual characteristics and often strong political statements or arguments.

These mental models formed from viewing media may have real implications for political entertainment effects. Mastro et al. (2007) conducted a survey regarding perceptions of Latinos and media use, and found that media use did appear to be contributing to viewers' mental models about Latinos, which helped to explain cultivation effects observed. They suggest that media effects research that is focused on implicit messages could especially benefit from considering mental models. The Esralew and Young (2012) experiment on the Tina Fey/Sarah Palin effect loosely incorporated the concept of mental models when it examined how the Fey parody of Palin triggered trait salience for viewers. Holbert et al. (2003) pushed the boundaries of priming theory with research on the TV drama *The West Wing*, finding that the show primed positive images of the U.S. presidency, in turn influencing individual perceptions of real-life U.S. presidents. This is in line with Engelstad's (2008) argument that entertainment television programs can cause viewers to feel as if they're getting a sense of what really goes on in politics, even if the characters and issues are fictional. Understanding how memes can contribute to mental models and subsequently have an impact on political attitudes, opinions, and behaviors is a central goal of the current project.

2.5.2 Schema/heuristics in information processing

Roskos-Ewoldsen et al. (2004) argue that mental models exist as the mid-point on a continuum of psychological mental representations, from the highly specific and contextualized situation model, to the abstract, non-specific, and non-contextualized representations of schema. Fiske and Taylor (2013) point out that social psychologists have long considered emotion an important component of cognitive processing. For example, they note schema-triggered affect theory holds that emotions, or affect, are triggered by schemas in the same ways knowledge can be. Fiske and Taylor (2013) define schema as categories in the memory that activate when

people need to make judgments about things in the world around them. Likewise, heuristics are principles individuals apply to make information processing and judgments easier (Tversky & Kahneman, 1974). Schemas and heuristics can function as cues or hints to the individual regarding how they should process new information or as lenses through which that information is processed. For example, partisan cues in newspaper content (positive or negative coverage as considered by the campaign in question) have been demonstrated to shift the public's image of presidential candidates (Dalton, Beck & Huckfeldt, 1998).

Many studies of political media and persuasion considering the cognitive aspects of persuasion make use of the Elaboration Likelihood Model (ELM). The ELM is a dual-route processing model most often applied to the process of the formation of evaluative judgments (attitude change), but according to Petty and Wegener (1999), it can be used to understand non-evaluative judgment formation as well. The theory states that there are two routes to persuasion, the central route, and the peripheral route (Petty & Wegener, 1999). These routes refer to differing amounts of “elaborative information-processing activity” (Petty & Wegener, 1999, p. 42), or how much effort people put into processing the message. When the central processing route is engaged, highly motivated individuals critically assess all the available information to arrive at relatively reasonable and articulate judgments. By contrast, when peripheral processing is engaged, low-effort assessments of the information change attitudes; here cognitive short cuts like schema or heuristics often come in to play in attitude formation (e.g. Petty & Wegener, 1999). According to ELM, attitudes formed through the peripheral route are weaker than those formed through the central route.

Studies have used ELM as a theoretical framework to try to understand the effects of late-night comedy (such as *The Daily Show* and *The Colbert Report*) on viewers. Much of this

research appears to agree that late-night political humor is processed through the peripheral, rather than central, route; what is less clear in this literature is why this is so (Polk et al., 2009). The literature appears to offer two potential explanations: a heuristic model that explains that political humor is persuasive because it acts as a heuristic cue to not pay as much attention (e.g. Xenos, Moy & Becker, 2009); the other is a resources allocation explanation, which argues that cognitive processing is devoted to understanding the joke in political humor, rather than scrutinizing the message (Polk et al., 2009).

2.5.3 Mental models and memes

Mental models can be thought of as the result of information processing; they also contribute to future information processing. Mental models have been demonstrated to be a useful tool for understanding cognitive processes involved in persuasive outcomes or media effects, particularly when a message is implicit. Because memes' arguments are visual and must be "decoded" they fit this category of implicit arguments. Mental models are "a single mental representation, including information about time, space, cause, motivation and characters" (Mastro et al., 2007, p. 351). This means that, not only could internet memes contribute to mental models, but memes could also be representations of their creators' mental models. This is particularly so for those memes which respond to events in the news by remixing content from mainstream media. For example, the Binders Full of Women meme mentioned previously, generally contained metaphoric representations of motivations, characters, and the like. This is a line of inquiry that could be considered further, and holds promise for insight into the persuasive or affective effects of these types of political narratives as played out in a transmedia environment. Mental models then can be used to examine the cognitive processes that contribute

to media effects of consuming internet memes. By considering mental models in research regarding memes, scholars can better understand memes' influence on those who view them.

2.6 Motivated Reasoning: A Theory of Biased Processing

Alongside their influence on mental models, memes may be decoded in conjunction with cognitive biases. There are myriad individual differences that may moderate, mediate, or otherwise influence the effects of viewing media. Some of the most likely variables to influence effects of political media include party affiliation and political ideology. These in turn are likely to be influenced by demographics and social contexts. For example, identification with a social group, such as race (Gay, 2001), or religion (Lewis-Beck et al., 2008), can influence political ideology due to attitudes and beliefs shaped by experiences and values. Additionally, Conover (1988) noted the importance of affect toward a group in political evaluations, as affect can act as a type of cue when it comes to thinking about specific political issues.

Motivated reasoning is a useful theory to consider when it comes to understanding the cognitive processes behind interpretation of media content. It states that people are goal-driven and will selectively choose or attend to information sources that support or reinforce their existing attitudes or beliefs, as well as process that information according to those attitudes or beliefs (Meirick, 2013). Motivated reasoning is the result of individual selection errors related to perhaps all aspects of the opinion-formation process, from information seeking to the subsequent processing and analysis of that information. These processes are in turn preceded by a conscious or subconscious desire to attain a certain goal. Considering this goal-directed component of motivated reasoning, it may also be the case that affective or emotional factors, for example how someone feels about a politician, may play a role in these biased selection processes (e.g. Redlawsk, 2002; Taber & Lodge, 2006).

Kunda (1990) argues that the two primary categories of motivated reasoning goals are accuracy goals and directional goals. Accuracy-driven motivation seeks correctness, even if that challenges existing beliefs or opinions; in contrast, directional goals operate in pursuit of a desired outcome. These accuracy or directional goals in turn influence how people make sense of new information they take in. Accuracy goals are thought to evoke deliberative or rational information processing (Hart et al., 2009), whereas an unconsciously biased memory search characterizes directional goals-led information processing (Kunda, 1990). Essentially, “people are more likely to arrive at the conclusions that they want to arrive at” (Kunda, 1990, p. 27). Under the motivated reasoning research paradigm, people are approached as cognitive misers, concluding that, “all else [being] equal, people seem to prefer not changing their opinions to changing them” (Lebo & Cassino, 2007, p. 722). This may not always be the case, however. Petersen, Skov, Serritzlew, and Ramsøy (2013) found that participants engaged in more effortful processing when presented with party cues to ensure party loyalty in their responses.

Scholars suggest that motivated reasoning is manifested through three biased cognitive processes: selective exposure, selective judgment, and selective perception (Lebo & Cassino, 2007). Selective exposure is an information-searching bias. That is, people choose information sources that support their existing beliefs or opinions about a given issue (Hart et al., 2009; Lebo & Cassino, 2007). Selective judgment is a type of confirmation bias, and is sometimes called motivated skepticism (Lebo & Cassino, 2007; Taber & Lodge, 2006). It can also contribute to polarization (Taber & Lodge, 2006), as a person engaging in selective judgment will scrutinize new information critical to their beliefs, while easily accepting information that supports their existing beliefs or opinions. Finally, selective perception is the act of interpreting information that is unfavorable to an individual’s existing opinions in such a way as to be supportive of those

opinions (Lebo & Cassino, 2007; Redlawsk, 2002), also contributing to polarization. Ambiguous message situations, or those in which clear source or other cues as to message intent are missing, may contribute to motivated reasoning (LaMarre et al., 2009). Because political memes have complex layers of referents to political events, concepts, and other memes, they may be particularly subject to this type of selective processing and judgment.

2.6.1 Motivated reasoning and politics

Motivated reasoning has clear implications for politics because of the relationship of pre-existing attitudes and beliefs and message interpretation. Motivated reasoning can affect individuals' beliefs about the world, including perceptions about the causes and outcomes of events, by encouraging biased information searching and analysis. In democratic systems of government, voters are expected to make informed choices at the polls. The results of these votes can directly impact the effectiveness of government and determine policies that directly come to bear on citizens. Motivated reasoning is of special importance in political communication research because of the interest in public opinion formation and opinion polarization. It may be worthwhile to keep in mind that this concern is due to that fact that much research in this area is built on an understanding of citizens not as separate individuals, but as a unit known as a public, which "forms its preferences by airing disagreements over collective courses of action, through societal-level discussion" (Nir, 2011, p. 504). Therefore, a main concern within this body of literature is how motivated reasoning affects this public opinion-formation process in some way. Much of this research is rooted in the normative concept of Habermas' public sphere (Nir, 2011). Hence, the literature on motivated reasoning within political science scholarship at times carries a normative connotation of "good vs. bad" regarding what are seen as rational ways of forming these opinions. However, I argue that motivated reasoning can also be used to help explain how

or why people process entertainment media to help explain the effects of consuming that media, leaving aside the normative implications regarding vote choice.

In political research on motivated reasoning, the theory is most often applied to studies of media choice and polarization (e.g. Druckman & Bolsen, 2011; Hart & Nisbet, 2012), but it can also be applied to understand the effects of political entertainment. LaMarre et al. (2009) conducted an experiment using a clip from the *Colbert Report*, a political entertainment show in which the host uses deadpan satire, which gives no clues as to the speaker's true intent. That study revealed that in ambiguous message situations in which there is no clear signal to the speaker's true intent (here due to the use of deadpan satire), viewers will interpret messages such that support or reinforce their own personally held political beliefs. In this case, participants with conservative political beliefs interpreted Colbert's remarks as supporting a conservative point of view. They understood that he was being satirical, but interpreted his remarks as having a different object than was truly intended by Colbert. These findings are suggestive of selective judgment and selective perception, two of the mechanisms of motivated reasoning. In considering political entertainment specifically, these constructs of selective judgment and selective perception may be especially useful for conceptualizing evidence for motivated reasoning. However, individuals' choice of entertainment media messages could serve as an approximation of selective exposure, as individuals may avoid or select certain political entertainment messages, including memes, based on their existing political ideology.

2.6.2 Motivated reasoning and memes

Motivated reasoning can be an illuminating lens through which to explore effects of internet memes. Memes are a potentially ambiguous message situation – being as they are simultaneously serious and funny, entertainment and political activism – a key impetus for

motivated reasoning in message interpretation. How an individual interprets a meme is likely to influence the persuasive outcomes of viewing memes. Because motivated reasoning research is informed by the role of affect in cognitive processing, information seeking behaviors, and motivations, motivated reasoning may help inform research that is interested in how persuasive or influential memes are on those who view them.

By considering memes' qualities—e.g. source, visual/humorous qualities, topic, etc.—and matching those qualities with the three cognitive processing biases of motivated reasoning, selective exposure, judgment and perception, researchers are presented with many directions for research into the effects of political internet memes. For example, an individual might come across a meme because of existing selective exposure processes in their information and entertainment seeking, in turn informed by other motivations or gratifications. Selective exposure to memes as part of a larger pattern of selective exposure may contribute to an individual's perceptions of the issue or figure the meme is referencing through these intertextual processes contributing to mental models. For example, filtering Facebook feeds may limit one's exposure to counter-memes on a given topic by only displaying content in line with the individual's already held opinions on the subject.

Additionally, memes' sources or stance toward a topic could contribute to selective judgments or selective perceptions about the meme's content or message. Partisan cues, including the website or person posting a meme, might contribute to the scrutiny level a person applied to the meme's persuasive arguments. For example, a person who identifies as politically liberal will likely either selectively avoid seeing memes from the anti-liberal meme site LiberalLogic101, or failing that, scrutinize the memes for flawed logic, but likely will not look for truth within them. The cue of the source will have influenced how that that individual will

approach the message. Memes lacking clear partisan cues (e.g. a label of “LiberalLogic101”) could be akin to the ambiguous message situation described by other political humor research (e.g. LaMarre et al., 2009), leaving viewers free to interpret them through the lens of his or her personal opinions or beliefs. The specific political actor or issue portrayed in a meme could also influence the level of scrutiny applied to the meme. The viewer’s feelings toward a specific person or issue could influence their interpretation of the meme and therefore its influence on the viewer. Although memes may in fact persuade viewers in some way, the theory of motivated reasoning focuses on the viewer’s process of biased interpretation of the message, rather than actual persuasion. By considering motivated reasoning in conjunction with mental models, which are particularly relevant for understanding the effects of implicit arguments, scholars can seek to understand these psychological and cognitive processes involved with meme interpretation. These processes in turn may help explain persuasive or affective outcomes of viewing memes.

2.7 Outcomes and Effects: Affect and Political Perceptions

In addition to cognitive processing approaches described above, politically related outcomes of viewing media are also often explored through psychological perspectives. Media influence may be moderated by individual differences that shape the way individuals view the world, such as social contexts and group identification. One way these contexts or identifications influence people and moderate effects of media is through the role of affect. A tendency toward affect in making decisions may be an individual difference, and is often considered in information-seeking and persuasion scholarship, such as a need for affect or a need for cognition (Cacioppo, Petty, Kao & Rodrigez, 1986; Maio & Esses, 2001). These concepts are related to Kunda’s explanation of directional and accuracy goals in motivated reasoning in that an

individual high in NFC is likely to have a tendency toward accuracy goals in consuming and interpreting media messages.

In political communication scholarship considering affect and media, affect is often presented as a construct encompassing emotion and mood, and at times attitudes and beliefs. Although some scholars have used the terms of affect and emotion interchangeably (e.g. Neuman, Marcus, Crigler & MacKuen, 2007), others have preferred to draw clearer distinctions among these terms (e.g. Crigler & Just, 2012). Affect can be approached as both an intermediary variable and an outcome variable in research. Often, affect is conceptualized as a type of moderator, or even mediator, between media viewing and subsequent actions. For example, in an exploration of the effects of arousal and valence on television viewers' capacity to remember things from what they viewed, Lang and Dhillon (1995) found that arousal influenced how well the message was remembered. Wyer (2004) demonstrated that affect toward politicians can influence later political judgments, suggesting that it may be difficult to remove emotion from the study of politics.

However, affect itself can also be an outcome of viewing media content. For example, Dillard, Plotnick, Godbold, Freimuth and Edgar (1996) demonstrated that fear appeals in television Public Service Announcements (PSAs) can, in fact, make people feel fearful. It seems that an individual's affective state can be an outcome of viewing media, as well as a moderator of effects of consuming media. Crigler and Just (2012) explained that emotion can be a function of the sender, the message, or the receiver, and that the reaction of the message receiver may not always match the intent of the source. This is reminiscent of Hall's work on encoding and decoding. Because of the intertextual nature of political internet memes, it may be difficult to distinguish whether affective responses are the result of the meme as its own entity, or the result

of connections viewers make to other events or associations with iconic or emotional images. One way to test this could be to compare visual and non-visual meme messages to measure differences.

Motivated reasoning is a useful theoretical approach to bridge the cognitive processing and internal psychology approaches for the study of political internet memes because of the emphasis the theory places on individual characteristics in processing new information. Motivated reasoning theory contradicts the view of Bayesian rationality underlying much political research, which argues that voters are completely rational and objective in updating their opinions based on new information (Gerber & Green, 1999; Lebo & Cassino, 2007; Redlawsk, 2002). Rather, affect has proven to play a central role in political decision-making. Redlawsk (2002) noted that “We can no more process political information without being aware of how it makes us feel than we can make reasoned candidate choices with no information at all” (p. 1041). Using affective measures of party identification (e.g. “feel” vs. “think”) has been demonstrated to shift party ID among voters (Neely, 2007); this may be a demonstration of affective intelligence, which argues “emotion and reason interact to produce a thoughtful and attentive citizenry” (Marcus, Neuman & MacKuen, 2000, p. 1).

Although affective intelligence is primarily a theory of political learning, or information-seeking, the theory demonstrates the importance and role of affect in triggering further action in political contexts. It argues that, dependent on which dimensions of affect are triggered by a stimulus, people will be motivated to participate politically or to seek more information (Marcus et al., 2000). Where this theory may intersect with the cognitive processing theory of motivated reasoning is in the processing of information in the form of media messages. Although affect may induce actions such as information-seeking, the level and type of affect present may

influence how much or whether bias is employed in the processing of the new information encountered (Redlawsk, Civettini & Lau, 2007). This intersection between theories harkens back to the current literature on the public sphere and everyday talk, which argue that media may teach citizenship and that everyday talk may change opinions through a process of learning about viewpoints other than one's own. Meanwhile, the cognitive processing literature, particularly that around motivated reasoning theory, makes it clear that such learning may be subject to message processing bias. Perhaps people hear what they want to hear, or see what they want to see in messages and information they encounter, particularly in the emotionally driven environment of modern politics.

Although the specific role of affect in political learning and cognitive processing may be contested, it is clear from the literature that affect is intricately related to processing political information—which can impact later political decision-making. Affect alerts people to new or upsetting information (Marcus et al., 2000), in turn influencing perceptions of both political messages and their objects (Redlawsk, Civettini & Lau, 2007). As such, affect is an important component to consider in contemporary political communication scholarship.

2.7.1 Defining affect

Before continuing, it is helpful to define what is meant by affect. Affect is variously operationalized to include a wide range of variables, generally including feelings, emotions, or moods; some scholars may perceive emotions to reference or include concepts such as attitudes or evaluations (Crigler & Just, 2012). This is particularly the case when attitudes are conceptualized as a feeling that influences processing or interpretation of some subsequent message. For example, Hepler and Albarracín (2013) used an affective understanding of the attitudes when they argued that individuals might have a trait tendency toward generally positive

or negative attitudes (this trait being known as a dispositional attitude), which would influence subsequent evaluations of stimuli. Additionally, Albertson (2011) noted that certain group affiliations or identifications, such as with a religion or race, often carry an affective weight that may influence implicit attitudes. Klauer and Musch (2003) consider attitudes to be “object-evaluation associations stored in memory” (p. 8). Affect is considered one of the primary mechanisms through which these associations are formed and stored in memory, making affect an important component of attitudes.

When it comes to defining these specific components of affect, some scholars use these terms interchangeably, although others do not. When distinctions are made among these terms, the distinction tends to be most often drawn along the lines of consciousness of and duration of the reaction. Some scholars have characterized emotions as short-term, primarily physiological, responses to a stimulus (e.g. Crigler & Just, 2012; Geva & Skorick, 2006), or as personality traits associated with a person’s character (Crigler & Just, 2012). In contrast, affect is often distinguished part of the cognitive structure, rather than the physiological one (Geva & Skorick, 2006). Crigler and Just (2012) define affect as a conscious state of feeling emotions, as in asking people how they feel about something. The term mood tends to most often be used to refer to a somewhat durable individual trait or state. At times, these definitions get a bit circular, as when Bohner, Crow, Erb and Schwarz (1992) characterized affect as mood states (good mood vs. bad mood) or when Crigler and Just (2012) defined mood as a diffuse affective state that is helpful for understanding a communication context.

Common state emotions examined in political communication research include anxiety and fear (Steenbergen & Ellis, 2006), as well as enthusiasm (Hutchings, Valentino, Philpot & White, 2006). In their conceptualization of affective intelligence theory, Marcus et al. (2000)

apply these terms to positive (enthusiasm) and negative (anxiety) dimensions of affect. Candidate likeability (Redlawsk & Lau, 2006) has also been characterized as a type of emotional reaction of viewers to candidate appearance and personality. Because of the emphasis on feelings in affect, these feelings might also extend to constructs such as interest or political efficacy. For example, Holbert, Lambe, Dudo and Carlton (2007) characterize political efficacy as feelings of competence and effectiveness. It appears that a range of possibilities is open to the scholar examining affective outcomes of viewing media, as long as the emphasis is on feeling in some form. This study will approach affect as an umbrella construct that is comprised of feelings, such as feelings toward an object, emotions, or moods. Some distinctions may be made along these dimensions of affect as necessary, such as when distinguishing emotion as a reaction to a stimulus and mood as a state of being.

2.7.2 Affect in political cognition

As noted, affect is often conceptualized as a stepping-stone to another outcome, such as judgments or evaluations. There are several mechanisms through which affect has been demonstrated to influence judgments, evaluations, or information seeking. Taken together, these theories suggest that, once triggered, affect becomes a lens through which subsequent information is evaluated. It is important to note that many conceptualizations of affect in political research do not use a one-dimensional model of affect, in which positive and negative emotions are cast as opposites of one another. Instead, studies have demonstrated that in political contexts, people can hold a mixture of positive and negative feelings or emotions regarding a target (Isbell, Ottati & Burns, 2006; Marcus, et al., 2000); this is especially the case for new candidates or political stimuli (Marcus, MacKuen, Wolak & Keele, 2006). In studies of political cognition and perceptions, especially those examining new or understudied contexts, it may be more effective

to avoid assuming a negative relationship between positive and negative affect to better understand the phenomenon at hand (Marcus et al., 2006).

There are a few mechanisms hypothesized regarding the role of affect in political cognition. Motivated reasoning research often tests the hot cognition hypothesis, which maintains that pre-existing affect is triggered when new information is present, leading individuals to evaluate new information using the heuristic of how it makes them feel (Redlawsk, 2002). This process happens very quickly, much more so than conscious appraisals; this phenomenon has been referred to as the automaticity of affect (Lodge & Taber, 2005). This affective response may influence evaluations even when the affect is not conscious. Wyer (2004) argued for an affect-as-information (AAI) approach to the study of affect and cognition. According to the AAI conceptualization of affect and judgments, affect may be experienced as feelings or as cues that don't alter the individual's affective state (Isbell, et al., 2006; Wyer, 2004). Wyer claimed that affective reactions influence judgments and behaviors by serving as a source of information about the "persons, objects, and events to which these reactions are directed" (2004, p. 363). These effects may be most pronounced when cognitive capacity and motivation to be correct are low (Isbell, et al., 2006; Wyer, 2004).

Affect is also thought to influence individuals through transfer or priming. When it comes to making judgments, some studies have observed an assimilation effect, in which affective feelings are transferred to the object of evaluation (Isbell et al., 2006). This is related to the concept of affective priming, which holds that people more quickly evaluate the valence of a target when they have first been primed with a trigger of congruent valence; incongruous prime-target pairs delay reaction time (Klauer & Musch, 2003). In terms of information processing, Isbell et al. (2006) noted that affective states can trigger systematic vs. heuristic information

processing; specifically, anxious or fearful states tend to evoke systematic processing, whereas angry or happy states lead toward heuristic information processing. Redlawsk (2006) examined the relationship between affect, motivated reasoning, and memory in voter decision-making, and concluded that observed delayed reaction times among individuals processing information that is affectively incongruent to information stored in the individual's memory is evidence for motivated reasoning. He noted that this process can strengthen the affective feeling. Similarly, Lodge and Taber (2005) found delayed reactions times in implicit measures for affectively incongruent pairs. Their findings suggested that even semantically unrelated words influenced subsequent political evaluations. Somewhat surprisingly, research has demonstrated the political sophisticates are more prone to making these emotional evaluations than are less sophisticated voters (Isbell et al., 2006).

2.7.3 Affect as outcome

Affect can also be approached as an outcome of viewing media content. For example, instead of influencing mood state before exposure to the stimulus as in the Isbell, Ottati and Burns (2006) study or Bohner et al. (1992), mood state could be measured as an outcome of viewing the media stimulus. By conceptualizing affect as resulting from viewing a stimulus, in this case internet memes, scholars can begin to understand effects of that stimulus. Measuring affect as an outcome in initial research can build a base from which future research into memes' effects can build. This mirrors Rill and Cardiel's (2013) research on digital media satire that used affective responses such as political cynicism and other political attitudes as outcome variables. Incorporating affect in the study of memes could also be useful to understanding memes' unique functions as communication practices as described by Shifman (2014). By assessing any affective outcomes of viewing internet memes as well as subsequent evaluations of political

figures, issues, or events, scholars may begin to understand the various effects this form of user-generated political media has on those who view them, for the memes' sake and how those memes may influence later political evaluations and decisions.

When it comes to choosing which effects or outcomes of media to assess in a given research study, it is beneficial to examine the pros and cons of each. Generally speaking, existing quantitative research of political media consumption can be grouped into four categories based on outcomes examined: information/knowledge outcomes, participation outcomes, cognitive media effects and affective outcomes. Although affective outcomes may not seem as lofty as some of the other potential outcomes groups, such effects can be equally important to explore in understanding the effects of mediated communication and may be particularly suited to the study of political internet memes. Although it can be difficult to measure affective responses, such as emotion, the centrality of emotion to political communication makes it worthwhile to attempt (Crigler & Just, 2012). Additionally, the nature of political internet memes is also well-suited to an investigation of the relationships among viewing memes, affective responses, and subsequent political evaluations and decisions. Humor is closely related to affective responses (amused, happy, etc.); the humorous nature of many memes lends itself to investigation of affective outcomes. Indeed, emotion may be central to memes' spread (Guadagno, et al., 2013; Heath, Bell & Sternberg, 2001; Shifman, 2014). As such, it might even be the case that those who create memes do so with the intention of evoking an emotional reaction from those who view the meme. Because many political memes may be attempts at satire, other emotions, such as fear or disgust, may potentially be triggered by memes. For example, could affect have played a part in the spread of the "Binders Full of Women" meme in 2012? Could emotional reactions to the meme itself have influenced voters' evaluations of Mitt Romney as a candidate? Baumgartner

(2008) has noted that digital satire may have effects on viewers' feelings toward political figures, making this a fruitful research area to pursue. More information is needed about the relationships among internet memes, affect, and politics.

Because it is not thought that quantitative study regarding the media effects of viewing internet memes has been yet undertaken, research into the affective outcomes of memes could start to lay a foundation to bridge the gap between current meme research that is critical/cultural in nature and traditional media effects paradigms. Affective research allows scholars to begin to measure influential outcomes of memes. Affective outcomes are something that can be measured in quantitative research with clear cause and effect relationships through testing and exposure to the stimulus while at the same time mirroring some of the language of feeling and emotion currently associated with meme research. Additionally, affect is a key bridge between the deliberative and cognitive paradigms of political opinion formation. By examining affective responses to memes in conjunction with motivated reasoning theory in viewers' interpretation of meme arguments, research can begin to examine the relationship between viewing political internet memes and politics, and the role emotion plays in that relationship. Such research could yield meaningful results regarding the effects of meme viewing on viewers' perceptions of political issues and figures, and of memes themselves.

2.8 Conclusions: Research Questions and Hypotheses

Memes are representative of a changing media environment in which old distinctions among producers and consumers, news, and entertainment, are blurred. Memes are a form of participatory discourse, or everyday talk, in a digital public sphere, wherein individuals use pop culture references to discuss politics. In many ways then, political internet memes straddle traditional conceptualizations of information and entertainment media. Their closest analogue in

traditional media may be political cartoons, which are often found in news publications and in media effects studies are often classified as news. However, political internet memes' quirky use of pastiche and snarky intertextual referents, along with their social media-based origins, would seem to align memes with entertainment and political satire media. Because memes are visual and intertextual, viewers must be able to make connections among disparate ideas to get the joke, or argument, as it were. These interpretations may be influenced by motivated reasoning, in which the individual seeks to interpret information in such a way that it upholds his or her previously held beliefs.

Additionally, there is a growing understanding in political research of the central role emotion plays in political evaluations and decision-making. Because of their visual and often humorous or satirical nature, memes are likely to elicit affective reactions in those who view them. These affective reactions — feelings, emotions, and moods — are in turn likely to play a role in the process of interpretation of the meme's message, and may influence evaluations of political objects — such as candidates or issues — and future political information seeking. If political internet memes trigger or tap into emotional responses to political figures or issues, then viewing these memes may be contributing to people's views or understanding of politics more generally. By studying affective reactions to political internet memes in relation to political evaluations, this dissertation will contribute to understanding of the role of emotion in modern politics and by extension the implications for public opinion and discourse in a digital public sphere.

In a media environment characterized by spreadable, immersive content, it is important to understand how such user-generated content influences people, and whether effects of media can be observed. By exploring affective effects of memes in conjunction with motivated reasoning

theory, this dissertation will contribute to understanding to not only the effects of political internet memes, but by implication to the future study of user-generated content as media. Recall that the guiding question for this dissertation is “how do political internet memes influence people’s political perceptions?” This dissertation will address this guiding question through some specific research questions and hypotheses regarding the affective responses such memes may elicit and viewers’ perceptions of memes.

Based on the preceding discussion of the literature, the following guiding questions are posed: What is the relationship between viewing political internet memes and affective outcomes? And what is the relationship between viewing political internet memes and perceptions about memes’ persuasiveness?

To answer these questions, it is useful to test political internet memes in relation to other stimuli to better understand the effects memes’ specific form may have as compared to other media. Because effects of meme viewing are a relatively new area of research, testing memes against a stimulus that is rather different in form may be useful for establishing effects on affect. In this case, using a paragraph that presents the same information as the meme, but in text only, as a comparison could allow the researcher to draw some conclusions regarding the specific visual nature of memes in their effects. It is possible that the visual aspect of memes contributes to their effects through intertextual remixing of other media texts, leading to a richness of the form. Therefore, the following hypothesis is proposed:

H1: Viewing *visual versions* of political internet memes will result in *stronger affective reactions* than viewing textual versions of the same memes.

In addition to comparing political internet memes to text-only versions, it may also be useful to compare political internet memes to other, non-political memes to make stronger claims about

such political memes' effects in the realm of politics through the dimension of affect. It may be that both political and non-political internet memes elicit affect, but political internet memes elicit dimensions of affect more closely associated with other political stimuli, such as negative affect. Such a finding could have important implications for the role of certain types of user-generated content in the political sphere. However, the literature does not yet provide sufficient information about this relationship to make a hypothesis. Therefore, the following research question is asked:

RQ1: Does the relationship between viewing *political* internet memes and affect differ from the relationship between viewing *non-political* internet memes and affect?

When it comes to viewing political internet memes, affective responses may be moderated by the individual's pre-existing political ideologies or beliefs. Some consider political attitudes and beliefs, including political ideology, to have affective components or origins. Motivated reasoning theory tells us that affective congruency, or lack thereof, is an important trigger for biased processing. Additionally, the theory also tells us that people tend to interpret new information or messages in a way that supports their existing beliefs whenever possible. Similarly, affective intelligence theory indicates that exposure to disagreeable, or affectively incongruent, new information produces negative affect. Based on this, it appears likely that viewing political memes with which one agrees is likely to produce positive affect due to that sense of agreement, but disagreeing with a political meme is more likely to produce negative affective responses. Therefore, the following hypothesis is posed:

H2: People who view political internet memes they *agree* with will report more *positive* affect than will people who disagree with the memes.

Because the study of memes as effect-producing media is relatively new, it is also beneficial to understand how people view political internet memes as a form of media, as these perceptions can influence effects of viewing them. Beyond effects on viewers' affect, it is also important to explore other persuasive effects of political internet memes. Therefore, the following research question is asked:

As noted above, it is useful to measure political internet memes against other stimuli to make stronger claims about memes' effects. The literature on visual rhetoric indicates that the intertextual, visual elements of a meme likely contribute much to the visual, enthymematic qualities of such memes. As such, it is possible that complete, visual political memes will be seen by viewers as a making stronger or more complete point about the specific issues addressed. Additionally, political internet memes tend to deal with weightier subjects, albeit in often-humorous ways, than do many non-political memes. It is useful then to compare perceptions of political internet memes' effects on persuasiveness to those of text-only versions and non-political memes. Therefore, the following hypotheses are posed:

H3a: Viewing *visual versions* of political internet memes will result in perceiving memes to be *more persuasive* than viewing textual versions of the same memes.

H3b: People who view *political* internet memes will report memes as being *more persuasive* than those who view *non-political* internet memes.

In considering perceptions about memes as persuasive stimuli, it is important to consider the role of biased processing in those perceptions. Motivated reasoning tells us that people tend to easily accept messages that are affectively congruent, or support their already held beliefs, without subjecting the message to much scrutiny. However, the opposite is true for messages that contradict those already held beliefs. When individuals encounter such messages, they tend to

scrutinize these messages more closely, often for discounting its credibility. Based on this, the following hypothesis is posed:

H4: People who see political internet memes they *agree* with will perceive memes to be *more persuasive* than will people who disagree with the memes.

Because memes' effects are a recent area of academic inquiry, it is useful to also explore how some individual characteristics may moderate these perceptions of memes. For example, an individual who is drawn to satirical or humorous political media because they experience a sense of belonging through doing so may tend to view such media content as being more persuasive, as might someone who is more politically engaged, particularly in online spaces, as they may view sharing online content as a valid method for political expression. Likewise, a person drawn to political humor for anxiety reduction purposes may experience different affective outcomes from viewing political memes than someone without that affinity, as might a person who considers themselves politically engaged. Therefore, the following research questions are asked:

RQ 2a: What is the relationship between political humor affinity and affective responses to memes?

RQ 2b: What is the relationship between political humor affinity and perceptions of meme persuasiveness?

RQ 3a: What is the relationship between political engagement and affective responses to memes?

RQ 3b: What is the relationship between political engagement and perceptions of meme persuasiveness?

Due to memes' visual and intertextual nature, those who view them must often make connections to a variety of other texts, both from pop culture and politics, to complete these visual

enthymemes. Arguably, a person with more knowledge of or experience with either of these areas, including media use, would have greater resources on which to draw in completing these enthymemes, and therefore may perceive richer depths of argument within the meme. These connections could also influence affective reactions to the meme by association with these other texts. Therefore, the following research question is asked:

RQ 4a: What is the relationship between familiarity with popular culture and/or media use and affective responses to memes?

RQ 4b: What is the relationship between familiarity with popular culture and/or media use and perceptions of meme persuasiveness?

By testing the preceding research questions and hypotheses, this study will begin to assess the relationships between viewing political internet memes, affect, and people's perceptions of memes as persuasive media. In doing so, this study aims to establish some dimensions of political internet memes' effects by approaching memes as a type of media content that may contribute to or influence viewers' understanding of politics through affect. By exploring how such user-generated content may function as a form of political media, the results of this study have implications for understanding the influential nature of user-generated everyday talk as media content in a digital public sphere.

3 METHODS

To examine the relationships between viewing political internet memes and affect, and between viewing political internet memes and perceptions of memes as persuasive media, an online, post-test only, quasi-experiment with six conditions was conducted. Before implementing the main study, a pilot test was conducted to establish the meme exemplars to use as the stimuli in the main experiment. The purpose of the main study quasi-experiment was to establish the relationships between viewing political internet memes, affect, and perceptions of memes' persuasiveness, along with examining the implications for politics in the modern media environment. The post-test questionnaire contained a mixture of self-report scales and open-ended questions; though the analyses presented in Chapters 4 and 5 relied on the closed-ended scale data.

The independent, dependent, and possible moderating variables were operationalized in such a way as to limit mono-operation and mono-method bias for increased construct validity. In many cases, the specific measures used were reported to have high reliability in previous research, and the same was also true of the present study. This design was intended to provide a well-rounded overview of one aspect of political internet memes' effects by examining their influence in modern politics using affect as well as provide a preliminary look at viewers' processing of memes' visual arguments.

3.1 Theoretical Framework and Rationale of the Method

Experimental research is the method of choice when the researcher wishes to draw inferences about causal relationships among a set of variables (Shadish, Cook & Campbell, 2002). Indeed, this is the major advantage of experiments over survey research, which must rely

solely on potentially faulty memory and self-report data (Druckman, Green, Kuklinski & Lupia, 2006; Iyengar, 2013) and can at best identify correlations among variables, which should not be considered proof of causation (Shadish et al., 2002). Because experiments and quasi-experiments—those in which participants cannot be randomly assigned in all conditions (Shadish, et al., 2002)—can be used to establish a clear cause-and-effect relationship among variables by controlling conditions except for the manipulation, experiments have become a dominant methodology in political communication research in recent years (Iyengar, 2013), as the field is increasingly concerned with identifying the specific effects of various media on voters (Druckman, et al., 2006). Because participants in the present study cannot be randomized into all conditions (namely, on their own political ideology), the present study should be considered an example of quasi-experimental research.

Although experimental research offers advantages over other forms of research in its ability to help establish causal relationships, such research is not without its own challenges. For example, depending on the design, experiments do not always provide causal explanations—the *why*—behind a phenomenon (Shadish et al., 2002). Unlike survey research, researchers working with experiments must also consider and adjust for factors such as mundane and experimental realism that may influence the generalizability of the research findings. Mundane realism refers to “the similarity of experimental events to everyday experiences” (Singleton & Straits, 2010, p. 213) although experimental realism is the degree to which participants take the experimental stimulus seriously and become involved in it (Hansen & Pfau, 2013; Singleton & Straits, 2010). These concepts are both part of the ecological validity construct, which reflects how well the experimental “settings and subjects represent real-world conditions” (Berkowitz & Donnerstein, 1982, p. 245). Although experiments can help establish causal relationships, they often take

place in an environment that differs from the real world, and so may or may not always reflect the processes that would occur naturally (Shadish, et al., 2002). Despite this, a quasi-experimental, post-test design was preferable to survey research alone for the present study because of the researcher’s desire to present a causal chain between viewing political internet memes and affect, and between viewing memes and perceived persuasiveness of them, to better understand how such political internet memes may function as a form of media that affects those who view them. Figure 4 demonstrates the hypothesized flow of cause and effect within the study, namely that viewing political memes will influence affect and perceptions of memes’ persuasiveness, and that those outcomes will also be influenced or moderated by participants’ own political ideology, agreement with the meme, and other potential moderating variables.

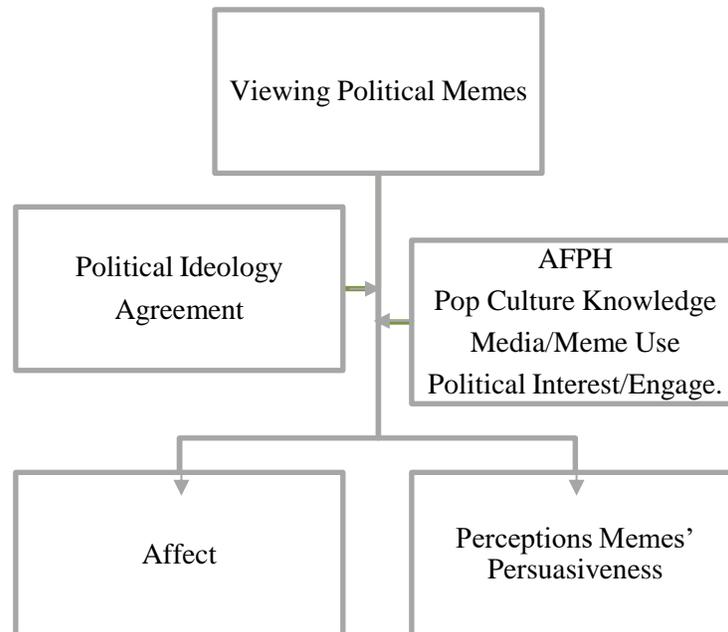


Figure 4. Theoretical framework of the study.

Study design overview: Participants in the main study were emailed a participation invitation with a link to the study in Qualtrics. Those who visited were greeted with brief instructions followed by informed consent. After giving informed consent, the Qualtrics software

randomly assigned participants to one of six conditions (including one no-stimulus condition for comparison purposes). After first viewing three examples of the stimuli presented in a vertical format, order also randomized, participants moved on to the post-test questionnaire. The stimuli were individually redisplayed for participants at select points in the post-test for participants to refer to in answering some of the questions. The questionnaire concluded with a chance to enter a drawing and some debriefing information. The flow of the main study design can be seen in Figure 5.

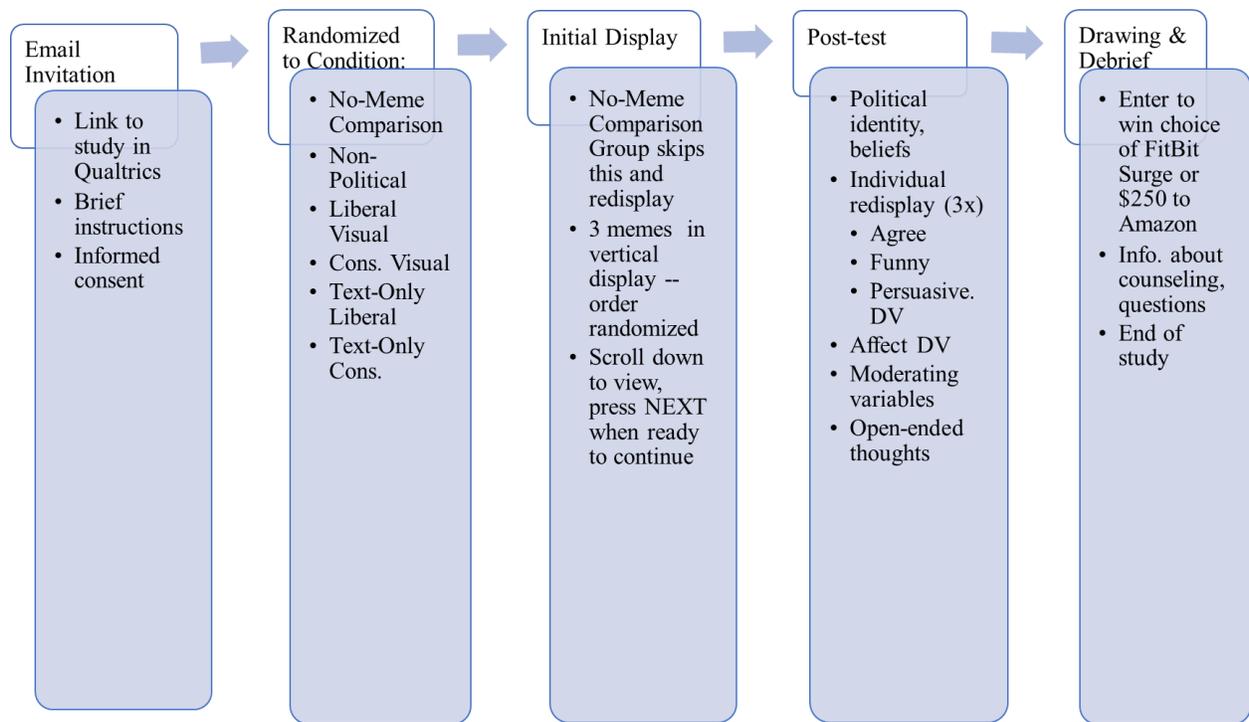


Figure 5. Flow of the main study design.

Prior to the main study, a pilot test was conducted to aid in selecting the stimuli for the main study, and to test some elements of the design. The overall flow of the pilot study was similar to that for the main study, where participants were presented with an initial display of the randomly assigned stimuli, followed by a post-test that incorporated individual re-displays of the

stimuli seen previously. The procedures for both the pilot and the main studies are discussed in more detail in the following sections.

Population: Today's high school seniors (class of 2017) and college freshmen (class of 2020) were only about 5 or 6 years old when Facebook launched in 2004. They have barely known a world without social media, and so are unlikely to make some of the same distinctions between "online" and "offline" media sources that others might do in forming their perceptions of how politics works and their opinions on candidates or issues. As these young people turn 18 and become eligible to vote, scholars should seek to understand how their media use influences their political perceptions and decisions. As such, this study considered the population of interest to be young adults in the United States between 18 and 24 years of age.

Participants were recruited from the approximately 22,000 undergraduate students enrolled at Colorado State University (Colorado State University, 2014). About 75 percent of CSU students are residents of Colorado, but according to the university, students from every state are enrolled at CSU (Colorado State University, 2014). Additionally, Colorado itself is often seen as a swing state or purple state during national elections, with an electorate that is fairly evenly split between Republicans (955,100 active voters) and Democrats (898,492 active voters), and in which more people are registered as "unaffiliated" (1.01 million active voters) than with either of the two major parties (State of Colorado, 2015). Therefore, students at CSU are likely to be representative of college students nationwide.

3.2 Data Collection Procedures

This section provides an overview of the procedure and outcome of the pilot study, procedures of the main study, and processes for maintaining confidentiality of the data.

3.2.1 Pilot Testing Procedures

Pilot test recruitment. The pilot test tested the best memes to use as stimuli in the main study based on participants' perceptions of their political content and ideology, as well as whether participants considered the text-only versions of the stimuli to be comparable to the associated memes in terms of conveying the same idea. The instrument and procedures received IRB approval and informed consent was given prior to participation. Participants were offered the opportunity at the end of the questionnaire to enter a drawing for a chance to win one of two \$50 gift codes to Amazon.

CSU Ram e-mail addresses for students enrolled in JTC 300 during the Fall 2015 semester were obtained from the instructors of three sections of the course. This yielded a total pool of 347 potential participants. Students enrolled in this course were selected for the pilot as they represent a broad variety of majors at CSU, but not JMC majors, the department of the researcher. Students enrolled in the course are primarily juniors and seniors, with some sophomores. A recruitment e-mail with included informed consent was e-mailed to students beginning Oct. 5, 2015, in waves of approximately 50 e-mails each time. These were randomly selected using a random number generator. Initial and up to two reminder e-mails were sent until Oct. 22, 2015. At that time, a total of 42 responses of the 100 desired had been obtained.

Due to the relatively slow response rate and some apparent confusion over some question wording as evidenced by the responses, it was decided to close the study and run a second pilot. IRB approval was obtained to recruit within the classrooms of the three JTC 300 sections and to offer 5 points of extra credit in that course in addition to the Amazon gift card incentive. An alternative extra credit option was available to those who did not wish to participate in the study. The extra credit was also given to those who had participated in the first pilot. To also increase

participation rates, informed consent was moved from being embedded in the recruitment e-mail to the beginning of the questionnaire in Qualtrics, as it made the recruitment e-mail quite lengthy to place it there. Minor changes to the questions asking about agreement with the stimulus, political ratings of the memes, and the text comparison task were made for clarity of the task. CSU eIDs, in addition to e-mail addresses for entry into the Amazon gift code drawing, were requested for the recording of extra credit. When the results were downloaded from Qualtrics, this identifying information was immediately separated from responses to the questionnaire, stored separately, and deleted once extra credit had been awarded and the drawing completed and winners notified.

Recruitment announcements were made in the three JTC 300 classrooms on Wednesday, Nov. 11, 2015. Students were provided with a handout in class, and reminder e-mails with the study link in Qualtrics were also sent to students' Rams e-mail addresses the same day. The study was closed on Nov. 21, 2015. A total of 160 people responded to the study, with 133 of those respondents completing the questionnaire as recorded by Qualtrics. All but seven of these responses came by Nov. 13; the study was left open a week longer to allow all students who wished to obtain the course extra credit to do so. Two drawing winners were selected from all those who had participated in either of the two pilots by using a random number generator and contacted to claim their reward in early December 2015. Prior to the end of the semester, the 5 points of extra credit was put into the Canvas gradebooks for students who participated in the first or second pilot or had chosen the alternate method of earning extra credit.

Pilot test procedures. The researcher created four sets of six memes each, for a total of 24 memes pilot-tested. Each set of six memes contained a mixture of 4 political memes and 2 non-political memes, as judged by the researcher. After giving informed consent, participants were

randomly assigned by the Qualtrics software to view one of these four sets. The six memes and accompanying questions were presented to participants one at a time, with the Qualtrics software randomizing the presentation order to reduce order effects of the meme presentation. Participants were asked to push the next button to continue, and so controlled their own pace through the survey; time lengths to respond were recorded. As participants viewed each individual meme, they were asked whether they generally agreed or disagreed with the idea presented in the meme, using a scale of *strongly agree* (coded as 1) to *strongly disagree* (coded as 5). They were also asked whether they considered the meme *not funny at all* (1) to *very funny* (5).

Next, participants were asked to state whether they believed the meme to be political using the question: “Not everyone sees media messages in the same way, because we all have our own unique perspectives. Keeping that in mind, would you say this meme is generally political or not political at all?” There were three answer options: Political, not political at all, or I’m not sure. Participants who indicated the meme was political in nature were asked whether in their opinion, the meme had a politically liberal position or a politically conservative position. The response choices were the same 7-point scale used to assess participants’ own political ideology. All were asked to explain their choice of whether the meme was political or not in an open-ended question. Participants were asked whether they had seen the meme and how familiar they were with it.

After this, half of the participants completed a thought-listing task first and half answered the PANAS first before moving on to the other item. Thought-listing tasks may enhance negative mood states through focusing or rumination on the negative thoughts, at least in therapeutic contexts (Broderick, 2005), an area of research that commonly uses both measures together. Finally, participants were asked to compare the memes to their text-only versions. Participants

were again presented with each meme, this time alongside its corresponding text-only version, and asked “Do you feel like these two versions convey basically the same idea, even though one has a picture and the other one doesn’t? Or do they convey completely different ideas from one another?” with the following answer choices:

- The two versions convey the same basic idea (1)
- The two versions convey mostly the same basic idea (2)
- The two versions convey somewhat different basic ideas (3)
- The two versions convey completely different basic ideas (4)
- I’m not sure (5)

An open-ended question solicited an explanation for their response and any suggestions they may have for improvement. Participants were asked to make this comparison for each of the six memes, one at a time. Although the main study did not incorporate text-only versions of the non-political memes, these versions were tested in the pilot so that participants are not primed to the distinction between the two types of memes for the study. The survey concluded with the same basic demographic questions to be used in the main study, as well as the political ideology and beliefs, political participation, and media use items.

3.2.2 Pilot Test Results

Analysis concentrated on the results of the second pilot. The memes that were rated the highest for having a conservative or liberal stance (3 conservative-viewpoint memes and 3 liberal-viewpoint memes), along with the memes’ corresponding text-only versions, were used as the political internet meme and text-only stimuli for the main study. When appropriate, the text-only versions incorporated suggestions from the pilot-study participants to help ensure that the stimuli conveyed the same basic idea as the visual memes, to prevent creating a confound between the stimulus and level of information, which would diminish the validity of the results

of the main study. The non-political memes to be used in the main study were those most clearly rated in the pilot to lack any political connotations or references.

To select which memes to use in the main study, means were calculated for the meme political ratings. As stated, participants were randomly assigned by the Qualtrics software to see one set of six memes. Therefore, each individual meme was rated by between 31 and 34 participants. Three memes had unanimous agreement by respondents that they were “not political at all” and were selected for use in the non-political meme condition in the main study. To select the political memes for the main study, the researcher set the following criteria: that a meme had a mean political ideology rating corresponding to a liberal or conservative point on the scale, avoiding weak or moderate ratings; and that each condition would contain one political figure meme and two political issue memes. The memes selected for the liberal meme condition had political ideology means of 2.10, 2.34, and 2.35, all corresponding with a rating of “liberal” on the scale. Memes selected for the conservative meme condition had ideology rating means of 5.28, 5.44, and 5.45, all corresponding to ratings of “somewhat conservative to conservative.” There were no memes that obtained stronger ideology ratings from participants for either of the political stances (that is, no means were higher than 5.45 for conservative memes, or lower than 2.10 for liberal memes). See Appendix B for the stimuli used in the main study.

Pilot test sample characteristics: Of the 133 participants who finished the second pilot, 47.4% ($n=63$) were men and 49.6% ($n=66$) were women. Two people did not answer, one person selected the “other” option, and one person selected the “prefer not to disclose” option. The sample was nearly evenly split in terms of political self-identification as being politically conservative or liberal, with 36.8% of respondents ($n=49$) identifying as politically liberal, and 36.1% ($n=48$) as politically conservative. Another 21.1% of respondents ($n=28$) identified as

politically moderate, with 6% ($n=8$) selecting the “unsure/don’t know” option. The fact political conservatives and political liberals were nearly evenly represented in the pilot sample was helpful, as the primary purpose of the pilot was to have a group of people like the anticipated sample for the main study rate the memes for political ideology.

Participants were also asked to identify their race/ethnicity, selecting all options that apply to them. In this study, 72.9% of respondents ($n=97$) identified as white. Additionally, 10.5% ($n=14$) identified as Hispanic/Latino, 4.5% ($n=6$) as Asian, 3.8% ($n=5$) as American Indian, and 2.3% ($n=3$) as African American. Another 5.3% ($n=7$) selected “prefer not to disclose,” and 2.3% ($n=3$) did not answer the question at all.

Changes to the questionnaire flow based on the pilot: Responses to open-ended questions included in the pilot study showed evidence of survey fatigue. Many responses coming later in the survey, such as on the text-comparison task, strayed from the task and instead offered commentary about the value of the study. Many of the responses to the thought-listing task itself consisted of one-word answers; in most cases the task was not fully completed, and thoughts listed did not appear to represent much actual thought or attention. Based on these observations, it was decided to eliminate the thought-listing task from the main study to reduce survey fatigue. It was replaced with a one-question, 5-point Likert scale (1 = *extremely negative*, 5 = *extremely positive*) global affect assessment that asked: “Thinking about how you feel right now, at this moment, would you say you feel more positive or more negative overall?” This item was used in place of the thought valence index in analyses of the main study.

Reliability analysis for the subscales of the PANAS were run, and all subscales achieved very good reliability, with Cronbach’s alphas above $\alpha = .90$. However, the items for the scale were not randomly presented to each participant in the pilot, and the decision was made to

randomize scale item presentation order for each scale used in the main study. To allow more time for people to process emotion when viewing the memes, and due to the elimination of the thought listing task, the PANAS was moved back in the main study to after participants had seen each meme twice and responded to the meme assessment questions. Following this pilot, an informal pilot of the full procedure for the main study and final stimuli was conducted to check for any flaws or confusing elements of the questionnaire.

3.2.3 Main study recruitment

Data for the main study were collected in April 2016. The desired participation level was reached in late April, and the questionnaire was closed on the morning of May 1, 2016, after allowing time for all who wished to participate to do so. The final response was recorded on April 30, 2016, meaning all data was collected during the month of April 2016.

Recruitment process: A convenience sample of college students at Colorado State University was used for the main study. A list of all undergraduates enrolled at CSU in the Fall 2015 semester was downloaded from RamSelect. To ensure a broad reach of majors and academic interests at CSU was included in the final sample, numbers were assigned to each university College and to each major within each College, including the “Undeclared/Exploring” program. A random number generator was used to create a randomized list of these majors. Potential participants were invited to participate based on their affiliation with a CSU academic major or the undeclared-exploring program from the randomized list until students from at least one major from all university Colleges had been contacted and the desired level of participation was reached.

Participants were recruited via emailed invitations describing the study as one about college students’ media use and politics, noting that those of all levels of interest in politics and

media, including non-interest, were useful to the study, and describing the incentive: A chance to enter a drawing for the participants' choice of a FitBit Surge or \$250 to Amazon (the equivalent monetary value). The incentives for both the pilot and main study were selected after informally asking individuals in the target age range of the study for their preferences; these individuals suggested Amazon gift cards without prompting and expressed interest in a FitBit product.

At the time the study was proposed, the FitBit Surge was the newest and most comprehensive product offered by FitBit, and represented the new and trendy market of smart superwatches. Unlike the Apple Watch, another buzzy smartwatch to which the Surge was often compared, the FitBit Surge is not tied to the iPhone, but rather synchronizes with many smartphones. In addition, Colorado is commonly considered a state with a population that values fitness, and the CSU student body is often said to represent that interest in fitness (Bush, 2013).

By providing the option between the FitBit Surge and the Amazon gift card for the compensation, it was hoped to reduce selection bias based on personal interest in the prize incentive and to reach potential participants who may not spend as much time online. The prize options were chosen to have a relatively high monetary value to attract participants, as prize drawings are not always the most efficient method of recruiting participants and the present study required a relatively large sample size.

In all, a total of 6,311 students at CSU were contacted with an invitation to participate in the study. E-mails were sent once a day. Each potential participant received the initial e-mail invitation and one follow-up reminder e-mail a week later. Of those who received the invitation, 942 people clicked on the link to visit the survey, a 14.9% overall response rate. Of those 942 people who started the survey, 668 participants ultimately completed it, for a 71% completion rate. The data for 35 participants in the conservative visual meme condition (one-third of those

assigned to that condition) were later removed from analysis due a previously undiscovered Qualtrics flow issue which resulted in those participants not being presented with all the questionnaire items, namely the persuasiveness scales and assessments for each individual meme. Therefore, the final study N was 633 participants.

Participant demographics. A total of 57 CSU majors out of 75 (74 academic majors plus the undeclared-exploring program) at CSU were present in the study participants, including some indicating having a major not specifically recruited for the study (e.g. Journalism and Media Communication). It is likely that some participants changed their major in the time between when the list was obtained and data were collected, such as an undeclared student declaring an academic major. The number of majors represented indicates broad reach of the survey across the campus. The five most represented majors in this study were Health and Exercise Science (7.6%); Business Administration (7.4%); Political Science (5.4%); Fish, Wildlife, and Conservation Biology (4.7%); and Ecosystem Science and Sustainability and Undeclared-Exploring, each tied at 3.9%. A complete list of participants' majors is provided in Appendix C.

Of the 633 participants included in the main study analyses, a majority (56.4%) stated they identified as female ($n=357$), with those who identified as male ($n=261$) making up another 41.2% of the sample. Those who selected "Other" ($n=3$) or "Prefer not to disclose" ($n=10$) made up a combined 2.1% of the sample. Two individuals did not respond to the question on gender at all (0.3%). The overall student population at CSU (including graduate students and online students) for academic year 2015-2016 was 51% female (Institutional Research, Planning and Effectiveness, 2017a).

On the question of ethnicity, participants could select all the options they felt applied to them, and 13.4% of participants ($n = 85$) in this study indicated having multi-ethnic identity.

Another 3.9% of participants ($n = 25$) selected not to disclose their ethnicity, and another five participants (0.79%) skipped the question altogether. Of those 603 participants who chose to disclose their ethnicity, a majority (73.8%) identified as being only white or Caucasian ($n = 445$), and 12.1% ($n = 73$) of participants identified as belonging to one minority ethnicity. According to university statistics, 75.8% of undergraduates enrolled at the university in Spring 2016 who disclosed their ethnicity identified as white or Caucasian, while 16.9% of the undergraduate student population who disclosed an ethnicity were recorded as being of ethnic minority status (Institutional Research, Planning and Effectiveness, 2017b). CSU is a white-majority campus, with only 18% of the entire student population for 2015-2016 being of ethnic minority status (Institutional Research, Planning and Effectiveness, 2017a). Of those in the study who indicated they were not white or had more than one ethnic identity, Hispanics ($n = 110$, 17.4%) and Asians ($n = 31$, 4.9%) were the next largest groups, followed by African Americans ($n = 13$, 2.1%), Native Americans ($n = 11$, 1.7%), and Hawaiian or Pacific Islanders ($n = 6$, 0.9%).

The median age of participants was 21 years old, with a majority falling between 19 and 22 years old (77.9%). In terms of class standing, more upperclassmen (62.7%) than underclassmen (32.5%) participated in the study, and 2.5% of participants identified as being graduate or professional students ($n=16$) and another 2.2% did not answer the question at all ($n=14$). Of these, 102 were freshman, 104 were sophomores, 172 were juniors, and 225 were seniors. Because there was no specific hypothesis about class standing, the 16 participants who identified as being graduate or professional students were not removed from the study.

Data collection timing context. Data collection for the main study took place during the primary season of the 2016 presidential election. Of the primary election events, the Colorado caucuses would likely have been of the most personal relevance to the participants in this study,

due to the fact the university where the study was conducted is located there. These caucuses were held on March 1, 2016, a full month before data collection began. Republicans did not hold a presidential poll at that caucus; candidate Bernie Sanders won the Democrats' vote.

Other key primary election events did occur during the month of April 2016. On April 3, the North Dakota Republican convention was held, but did not have a formal presidential preference vote. The Wisconsin primary was held April 5, and was won by Ted Cruz for the Republicans and Bernie Sanders for the Democrats. Sanders also won the Wyoming Democratic caucus, held April 9. The ninth Democratic debate was held April 14 and broadcast by CNN. In the second half of the month, the New York primary was held April 19, and the Connecticut, Delaware, Maryland, Pennsylvania, and Rhode Island primaries were all held April 26. Donald Trump won those primaries for the Republicans. For the Democrats, Hillary Clinton won all but Rhode Island, which went to Bernie Sanders. See WSJ News Graphics (2015) for an interactive list of election-related events and Andrews, Bennett and Parlapiano (2016) for a summary of the primary results.

At the time of data collection, the likely final party nominees for the 2016 presidential election were not yet cemented, though front-runners for the nomination were beginning to emerge. On the Republican side, Ted Cruz appeared to be a front-runner for the nomination at the beginning of April, but by the end of the month Donald Trump had clearly pulled ahead. In the latter half of April third-place Republican candidate John Kasich and Cruz tried to team up and strategize to prevent Trump from reaching the required number of delegates to win the nomination (Burns, Flegenheimer & Martin, 2016). Finally, in a bid to generate interest in his campaign, Ted Cruz announced Carly Fiorina as his vice-presidential pick on April 27 (Martin, Flegenheimer & Burns, 2016). Cruz then suspended his campaign after his loss to Trump in the

May 3 Indiana primary. Kasich dropped out shortly after. This timing means that Cruz and Kasich were still in the race during the time all data were collected for this study, but by the end of data collection it was clear their campaigns were struggling. For the Democrats, Hillary Clinton and Bernie Sanders appeared more evenly matched, with each receiving some primary elections wins during the month of April.

3.2.4 Main study procedures

The main, post-test only, quasi-experiment was conducted online at a computer or using another internet-connected device (phone or tablet) in a location of the participant's choice (e.g., at home). Upon clicking the link in the recruitment e-mail, participants were taken to the study in Qualtrics and presented with, first, basic instructions stating: "Your thoughts and opinions are very valuable to this research. For the best experience, please do not work on other activities while you are completing this study. Please click the next button to continue."

After clicking next, participants were presented with the informed consent notice. If participants agreed to the informed consent and to participate in the experiment, they clicked "next" to proceed. The Qualtrics software randomized participants to one of the experimental conditions or to the comparison/control group. Participants in all but the comparison group were first asked to scroll through and view a collection of 3 meme exemplars or text-only versions of memes. The stimuli were presented in a stacked vertical format with space between each meme that very loosely mimicked a blog, such as a Tumblr, where memes are often found, but without any extra background imagery to be reminiscent of such a site.

Participants assigned to one of the five experimental condition were told: "Please look at the following. You will be asked to answer questions about what you see. When you are ready, click the NEXT button to continue." After continuing, participants were directed to answer the

global affect assessment and political favorability questions. They next viewed the three stimuli individually, presented in random order by the Qualtrics software, answering the meme assessment questions for each, including describing in their own words what idea they thought the message was trying to convey, whether they agreed with that idea, answering the meme persuasiveness scale items, and whether they agreed with the statement that the meme was funny. After completing these items, once for each of the three memes, participants were asked if they had seen these images (messages for text-only condition) before answering the PANAS. After the PANAS, participants were asked the political ideology, political beliefs, political interest, and political engagement items, followed by the affinity for political humor and subjective knowledge of pop culture, third-person perception of political memes, and media/meme use items. Participants were next asked to answer three open-ended questions asking their thoughts on why they and/or others create political memes and whether they thought political memes are an important way people can be involved in the political process. The survey concluded with the demographic questions and questions about survey environment and an opportunity to choose whether to participate in the incentive drawing.

Procedures for the comparison group: Participants in the comparison group did not view a stimulus, but instead completed only the post-test survey. The post-test for those in this condition eliminated the questions that asked specifically about the stimuli participants saw, including the meme persuasiveness items, and instead included only those measures for which a comparison to the other conditions is desired. Instead of a stimulus, after giving informed consent participants in this group were presented with a message that said “Thank you! Please click the next button to proceed.” The comparison group’s questionnaire then followed that of

the experimental groups', simply eliminating the items related to assessing each meme, including the persuasiveness items, as well as the manipulation check items.

This study design decision was made so that the comparison group would provide a typical baseline to which those in the test conditions could be compared on affect (Shadish, Cook & Campbell, 2002). A comparison group was useful in this study because of a desire to avoid pre-test priming of the participants. Although one way to eliminate or reduce priming is to conduct a pre-test at some time before the main study, there is a risk of participant attrition between times. Because a relatively large sample size was needed for this study, it was desirable to limit participant attrition. Additionally, if the participants were to view some other, unrelated stimulus, the PANAS would then have instead capture participants' affect toward that stimulus, and the comparison or baseline affect information would have been lost. Therefore, the comparison group was needed to both avoid attrition and to eliminate pre-test priming.

Presentation of items: To limit order presentation effects, three separate versions of the initial display of the stimuli for each experimental condition were created so that each exemplar was in a different position (top, middle, bottom). Qualtrics was used to not only randomize participants to a condition, but also to randomly display one of these three versions within each experimental condition to participants. The re-display of memes was also randomized. Whenever possible, Qualtrics was also set to display scale items in random order to participants so that no one participant answered the scale items in the same order.

The post-test itself was self-guided, and the questions were presented in smaller sections of questions on similar topics. Participants could move forward within the questionnaire, but not backward. This was to prevent participants from changing their answers on earlier questions after they had completed the later questions. The political ideology and belief questions were asked

later in the questionnaire, after the favorability ratings of political figures and issues, to help minimize priming in those responses. Once participants completed the post-test questionnaire, including entering the incentive drawing if they chose, they were thanked for their participation and debriefed. The study did not employ deception, in that participants were told in the informed consent that the study was about media use and politics. The debrief consisted of a reminder of the study's purpose, including the specific focus on political internet memes, and let participants know follow up options, specifically contact information for any questions, concerns, or desired counseling.

3.3 The Experimental Stimuli

The final experimental stimuli consisted of two sets of three political meme exemplars, each exemplar on a different topic; corresponding text-only versions of those exemplars; and one set of three non-political memes, all selected based on the results of a pilot test. For the two political meme exemplar sets, one was conservative in political ideology, and one was liberal. To select the stimuli, 24 exemplars of internet memes were tested in a pilot study to determine comprehensibility, ideology, and perceptions of political content. The final meme exemplars and corresponding text versions used in the main experiment were those demonstrated to best espouse either a conservative or a liberal viewpoint, or no political ideology at all based on pilot test participant ratings.

As internet memes remain a relatively new phenomenon of academic study, there is no one agreed upon way to derive samples of memes for research purposes, though it was desirable to engage in a level of stimulus sampling to avoid confounding the results with the specific memes studied (Wells & Windschitl, 1999). Although some scholars describe executing simple web searches to select their stimulus (e.g. Lyons, 2013), the most commonly reported method is

to first select certain websites known to generate or host memes, then further select the most popular memes from those sites (e.g. Drakett, Rickett & Day, 2014; Guadagno et al., 2013; Milner, 2012; Shifman, 2012), with further selection as necessary to match the needs of the particular study. Following these examples, the present study engaged in a multi-step process to produce the corpus of 24 political memes for initial pilot testing.

First, an exhaustive search for 450 meme exemplars was performed across a variety of online sources. There is no one, established and authoritative source for political internet memes; rather, these memes can be found on a variety of websites and spaces ranging from social media to news sites. The sources searched for this study included meme database KnowYourMeme; meme creation sites MemeCenter.com and MemeGenerator.net; an extensive compilation of political memes as political humor by about.com; and Google Images searches for specific key words and phrases related to those political issues for which political attitudes were measured, as well as for the upcoming 2016 presidential election. A bit less than half of this 450-exemplar corpus ($n=200$) were obtained from Google Images, with the rest coming from the other sources.

Second, the 24 meme exemplars to be pilot tested were further selected from this larger pool based on the following set of criteria:

- The exemplar must make a clearly political statement, reference, or argument. In other words, it must clearly reference and/or depict specific issues or people identified/addressed by political candidates or office holders.
- A clear political ideology must be reflected in the meme's argument or statement in the researcher's opinion. The exemplar must be taking an identifiable position or perspective on the issue.

- The exemplars must have distinct (different) images and topics from one another, to ensure a range of memes are represented. For example, the study did not test 5 different Texts from Hillary meme exemplars.
- The exemplars must take the traditional image macro-type meme form of a still image with (brief) added text.

Any meme exemplars not meeting these criteria were removed from consideration as political memes. The researcher then selectively chose the memes for pilot testing from the remaining memes, keeping in mind the need to have a roughly equal number of meme exemplars appearing to have a conservative ideology and a liberal ideology, as well as to depict or reference figures or issues of current interest at the time the study was to be conducted. The pilot test assessed whether participants agreed that the selected memes were political and, if so, whether they were conservative or liberal in stance.

The non-political memes to be pilot tested were also selected from this corpus of 450 meme exemplars, and needed to meet the final two criteria on this list (distinct images and topics, image macro-type form). In addition, the researcher judged them to not have any political mentions, connotations or associations, a perception confirmed by pilot testing. See Appendix B for the memes that were pilot tested, as well as those ultimately selected for the main study.

Stimuli for the text-only conditions were based on the political memes selected for pilot testing. The text described the main actor and attributed the main statement from the meme to that actor to convey the same or similar level of information in each condition. Those familiar with memes may be able to recognize this text-only version as being representative of a meme. As an example of this conversion to text only, consider a pair of memes on the social and politicized issue of food stamps. The Most Interesting Man in the World is a character from a

Dos Equis beer advertising campaign and has become the basis of an internet meme. The Most Interesting Man is a nattily dressed older gentleman, who says in the ads, “I don’t always drink beer. But when I do, I prefer Dos Equis.” Most Interesting Man’s image has become the basis for an image macro meme that mimics this “I don’t always X, but when I do, Y” phrasing from the advertisements to comment on a number of issues and situations, both social and political.

Another meme approaches this same issue from a politically liberal perspective using a news photo of an overweight, middle-aged man wearing a Tea Party Patriots T-shirt. Table 1 compares these memes with their proposed text-only versions.

Table 1. Side-by-side comparison of complete memes and their text-only versions.

Complete Political Meme	Text-Only Version
	<p>The most interesting man in the world says: “I don’t always hate food stamp recipients. But when I do, it’s because they have an iPhone 5 and a Coach purse.”</p>
	<p>Overweight man wearing a Tea Party Patriots T-shirt says: “When I was on food stamps, I never asked the government for help.”</p>

By setting up the text-only stimuli this way, participants were given a sense of the speaker and words as presented in the corresponding meme, but without the added value of the visual element. Viewers in both conditions had to make mental connections between the “speaker” and the argument, and may have drawn on previous experience or knowledge in doing so. However, some of the humor and references to other memes is maintained in the text-only version, providing more comparability to the visual version. Comparing these two conditions was intended to help establish the specific effects of memes as a complete (visual) package. These text-only stimuli were pilot tested along with their corresponding memes. Based on the study hypotheses, text-only versions of the non-political memes were not used in the main study.

3.4 Instruments and Variables

Based on the research questions and hypotheses posed at the end of Chapter Two, the primary independent variables (I) proposed in this study were viewing political internet memes as opposed to text-only versions or non-political memes (the stimulus condition) and agreement with the meme. Agreement with the stimulus was operationalized two ways: congruence of political ideology with that of the political meme, and stated agreement, or lack thereof, with the idea presented in the stimulus. The primary dependent variables (D) in this study were reported affect and perceived persuasiveness of memes. The primary measure of affect was a self-report measure that captures state emotions not specifically directed toward a target, as well as a self-report of feeling more positive or negative overall. Perceived persuasiveness was operationalized with a variety of measures designed to capture participants’ perceptions of the stimuli viewed as message forms, specifically message effectiveness, argument quality scrutiny, and message discounting. Additionally, although actual persuasiveness regarding the memes’ specific political targets was not specifically hypothesized in this study, participants were asked to indicate their

favorability toward specific political figures and issues, including those depicted in the experimental stimuli. Table 2 lists the variables measured, with their corresponding operationalizations and data measurement instrument types.

Table 2. Variables and data measurement type

Variable and operationalization	Data measurement instrument
Meme Type (I)	Stimulus condition
Agreement with the Meme (I)	
Agreement Self-Report	Scale item
Participant Political Ideology	Scale items
Participant Political Attitudes	Scale items
Potential Other Moderators/Mediators (I)	
Affinity for Political Humor	Scale items
Third-Person Meme Perceptions	Scale items
Subjective Knowledge of Pop Culture	Scale items
Political Engagement and Interest	Scale items
Perceived Funniness	Scale item
Media Use	Scale items
Demographics	Scale items
Affect (D)	
Positive, Negative, Aversion Affect	Scale items
Global Affect	Scale item
Meme Persuasiveness (D)	
Message Discounting scale	Scale items
Message Effectiveness scale	Scale items
Argument Quality Scrutiny	Scale items
Political Evaluations (Favorability)	Scale items

Because the study of political internet memes as a form of media and their effects is relatively new, the present study was somewhat exploratory in nature. Therefore, potential moderators, mediators, or alternative explanations, both independent and dependent, based on the preceding literature were measured even though they were specifically hypothesized. See Appendix A full questionnaires.

3.4.1 Dependent variables: Affect and perceived persuasiveness

As noted in the literature review, affect is a construct that comprises multiple dimensions, including feelings toward an object, emotions, and moods. This study will use three measures of

affect that address positive and negative emotions and feelings toward the stimulus and the stimulus' object. Perceived persuasiveness will be measured using three scales: perceived message effectiveness, argument scrutiny, and message discounting. First the measures of affect will be described, followed by the perceived persuasiveness measures.

3.4.1.1 Affective outcomes

Positive and Negative Affect Schedule: This study will use the Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark and Tellegen (1988) to measure the presence and strength of positive and negative emotions elicited by viewing the stimuli. The PANAS asks participants to report their experience of 20 different emotions presented as single words on a scale of *very slightly or not at all* (1) to *extremely* (5). The PANAS serves as a measure both of specific emotions experienced as well as intensity, making it possible to make comparisons regarding how much affect is reported. Marcus, et al. (2006) noted that asking respondents about intensity vs. frequency of experiencing an emotion produces the same results, making either phrasing valid. This study will use the phrasing of intensity, and direct participants to identify how they feel “right now, at this moment” they are completing the items. Positive affect items include emotion words such as “enthusiastic,” “interested,” “excited,” and “inspired.” Negative emotions include words such as “upset,” “scared,” “jittery,” and “afraid.” These positive and negative dimensions are sometimes alternatively called enthusiasm and anxiety (Marcus et al., 2000).

Additionally, a separate dimension of negative affect, aversion, is at times triggered by political stimuli (Marcus et al., 2000; Marcus et al., 2006). Marcus et al. (2006) recommend measuring aversion as a separate dimension of negative affect when there is no clear reason not to better understand what affect is elicited by political stimuli. Following this recommendation,

this study will add the items “angry,” “bitter,” “hatred,” and “contempt” to the PANAS to measure aversion, making it a 24-item scale for the purposes of this study.

The PANAS is widely used in political research, and it forms the basis for measuring affect as proposed in affective intelligence theory (Marcus et al., 2000). Watson et al. (1988) tested the PANAS across temporal instructions, as a retest, and with non-student populations, as well as against several potentially related or redundant characteristics, and found the PANAS to provide “reliable, precise, and largely independent measures” (p. 1067) of positive and negative affect. They reported a Cronbach’s α of .89 for the positive affect items and .85 for the negative affect items when using the temporal instructions “at this moment,” as the present study proposes to do. The PANAS has become a standard for assessing the two-dimensional aspect of emotion, which is especially relevant for the study of politics (Marcus et al., 2006). The scale also has relevance for the study of memes, as Guadagno et al. (2013) used the PANAS in their study of the spread of video internet memes, concluding that emotion is a factor in their spread. It is especially useful for the present study as it does not require a specific target and allows for the capture of separate dimensions of affect, unlike feeling thermometers or other bipolar measures of affect, which artificially collapse the results (Marcus et al., 2006).

Global Affect self-rating: To capture overall mood state using less emotional language, participants were also asked to respond to a one-question, 5-point Likert scale (1 = *extremely negative*, 5 = *extremely positive*) global affect assessment that asked: “Thinking about how you feel right now, at this moment, would you say you feel more positive or more negative overall?” This allowed for a different measure of affect that was not tied to specific emotions, but rather participants’ perception of their overall current mood state.

3.4.1.2 *Persuasiveness of memes*

The second major dependent variable in this study is the perceived persuasiveness of memes. Perceived persuasiveness of memes was operationalized as participants' perceptions of memes' persuasiveness as a message form, specifically about the ideas presented in the stimuli. Three scales were used to assess these perceptions, including message effectiveness and discounting measures, as well as argument scrutiny. Measuring argument scrutiny allowed for assessment of the role of motivated reasoning in meme perceptions, as this can indicate whether selective judgment or selective perception is activated in viewing the meme.

Perceived message effectiveness: Perceived message effectiveness was captured by a 3-item, 5-point scale, where 1 indicated *strongly disagree* and 5 indicated *strongly agree*. The scale was adapted from Kang and Cappella's (2008) examination of emotional reactions to and perceptions of PSAs. Participants were directed to a specific target, the individual meme stimuli, when answering for the purposes of this study. Each exemplar from the experimental stimuli was re-displayed while participants answer this scale for each exemplar. The items used were: "I found this message persuasive regarding its topic," "I did not find this message convincing regarding its topic" (reverse coded) and "I think people similar to me would find this message persuasive regarding its topic." Following Kang and Cappella's (2008) method, these responses were averaged to create a measure of overall message effectiveness. The scale was especially useful for the present study because it assesses both first-person perceptions and third-person perceptions of persuasiveness by asking participants about their own reaction and their expectation of others' reactions, giving a more nuanced picture of perceptions of specific meme persuasiveness. The third-person perception of memes scale had acceptable reliability in the present study, $\alpha = .76$.

Argument quality scrutiny self-report: To additionally assess the role of motivated reasoning in these perceptions of meme persuasiveness, scrutiny of argument quality was measured. Though argument scrutiny is often derived from coding thought listing responses (e.g. Polk et al., 2009; Young, 2008), the present study was primarily interested in participants' self-report of such scrutiny, in keeping with the conceptualization of persuasiveness perceptions. For the purposes of this study, participants responded to a 4-item, 5-point Likert-type argument quality scrutiny scale (1 = *strongly disagree*, 5 = *strongly agree*).

This scale was created specifically for the present study, and is comprised of individual items drawn from previous research studies on argument scrutiny and argument quality. The items used in the present study were: "I think the arguments or statements made in this message were valid ones" (reverse coded) (Lee, 2007); "I think the arguments or statements made in this message were not based on a firm understanding of the situation," (Hample, Warner & Norton, 2006); "I think the arguments or statements made in this message were of high quality" (reverse coded) (Petty et al., 1999); and "I was looking for flaws in the arguments or statements made in this message" (LaMarre, Landreville, Young and Gilkerson, 2014). See Chapter 5.1 for a discussion of the reliability of the scale in the present study.

Message discounting: This variable is intended to assess how much participants dismiss a message as irrelevant to serious judgments and persuasive intent. It was measured with a 4-item, 5-point, Likert-type message-discounting measure adapted from one previously used in political humor research will be used. The original scale (LaMarre, et al., 2014; Nabi, Moyer-Guseé & Byrne, 2007) sets up seriousness or persuasive intent and entertainment as opposites, which may not be accurate in the real world. Indeed, the scale has varied in reliability across stimulus types ($\alpha = .561$ to $.879$). It may be that the type of stimulus used impacts the 4-item

message discounting scale because participants have difficulty choosing between these two false opposites. To compensate for this, the present study adapted these measures to eliminate this forced choice, as well as to specifically direct participants to think of the stimuli in answering the questions.

Participants were asked to rate their level of agreement with the following statements: “This message was intended to persuade viewers about its topic;” (reverse coded) “This message was intended to entertain viewers about its topic;” “The creator of this message was serious about advancing their views about this topic in the message,” (reverse coded) and “This message was only a joke about its topic.” As with the message effectiveness items, the specific stimuli were redisplayed as participants answered these questions. Participants responded to this scale three times, once for each meme. See Chapter 5.1 for a discussion of the reliability of the scale.

Political figure and issue favorability: Participants were asked to evaluate a series of political figures and issues, some of which were depicted in the experimental stimuli. For each figure or issue, participants were asked for their overall impression using a 5-point scale from *extremely unfavorable* (1) to *extremely favorable* (5) (Lodge, McGraw & Stroh, 1989). A *don't know* option (6) was included so that participants were not compelled to rate a figure or issue with which they were not familiar.

3.4.2 Independent variable: Agreement with the stimuli

Agreement with the stimuli was measured in two ways: 1) participant political ideology and attitudes and 2) stated agreement with the meme's idea or argument. The two measures were used to aid in understanding the affective reactions elicited by the meme and to help in determining the role motivated reasoning may have played in meme argument interpretation.

Political ideology: Political ideology can be defined as “belief systems through which

people view and interpret reality” (Farmer, 2006, p. 9). Although political party affiliation can be an indicator of political ideology, ideology more specifically refers to a socially defined self-identification that is based on beliefs regarding specific issues as well as political symbols (Conover & Feldman, 1981). Participants were asked: “Now thinking in terms of political issues, would you say you are: Very Liberal, Liberal, Somewhat Liberal, Moderate, Somewhat Conservative, Conservative, Very Conservative, or don’t know?” and the responses coded as 1 to 7 (don’t know = 8) (LaMarre, Landreville & Beam, 2009, pp. 220-221).

Ideology measures that ask participants to rate where they fall on a continuum are typical in political communication research that measures political ideology or partisanship. Some use the 7-point continuum, which is to also be used in the present study (e.g. LaMarre, et al., 2009; Young, 2006), though others use a 5-point version (e.g. Hoffman & Young, 2011; Young, 2013). The 7-point version was used in the present study to allow for more nuance of information in the results (see Figure 6). Because this study was interested in differences between those participants whose ideology matched that of the experimental condition to which they were assigned and those whose ideology differed from that of the memes in their assigned condition, a collapsed political ideology scale was created and used for the analyses. All participants who identified on the original item as being somewhat liberal, liberal, or very liberal were recoded as 1 for liberal. All who identified on the original item as being somewhat conservative, conservative, or very conservative were recoded as 2 for conservative. Moderates were coded as 3, and those who answered as not knowing or being unsure of their ideology were recoded as missing data and excluded from analyses. More participants in the main study were liberal (46.6%, $n = 295$) than conservative (27.5%, $n = 174$), and 18.2% identified as politically moderate ($n = 115$), and 7.6% as unsure or don’t know their own political ideology ($n = 48$).

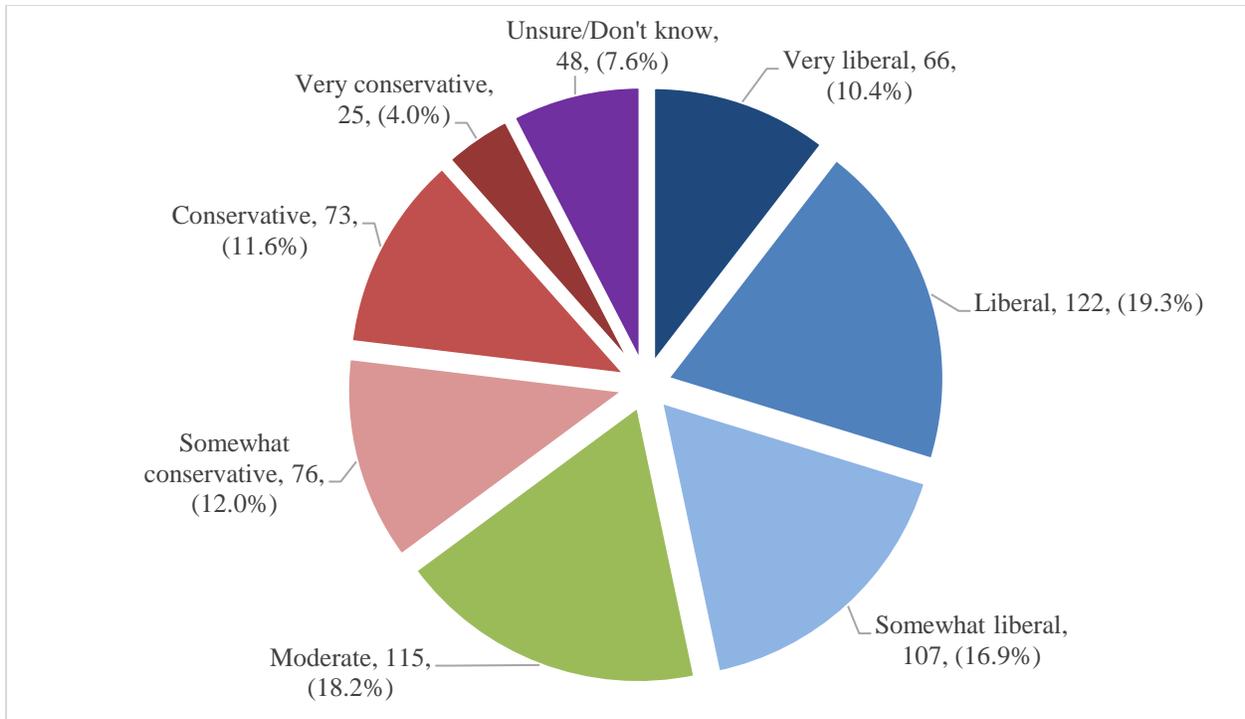


Figure 6. Political ideologies of participants

Political attitudes: As a secondary measure of ideology, participants were asked to respond to a series of questions about their general political attitudes regarding social and policy issues. Participants were asked to respond a series of 11 items adapted from the 23-item political typology assessment developed by the Pew Research Center (2014). The full assessment asks participants to identify which of two opposing statements is closest to their own view, even if neither one is exactly right; these statements address a variety of topics, including race; immigration; business; government; the social safety net; foreign policy; business; family, religion, and homosexuality; foreign policy and terrorism; and individualism and the environment, with one statement in each pair representing the liberal view, and one representing the conservative view (Pew, 2014). For the purposes of the present study, the assessment was shortened to 11 pairs that most clearly reflected the major parties' policy stances on issues depicted in the experimental stimuli.

The Pew assessment used analytical measures to group respondents into categories such as “steadfast conservatives” and “next generation left.” For the purposes of the present study, participants’ scores were totaled and recoded into a variable indicating a lean toward liberal, conservative, or moderate political beliefs based on their total score. A Pearson correlation was conducted between this created political beliefs variable and the variable indicating participants’ self-identification of their political ideology lean toward being liberal, conservative, or moderate. The two variables are moderately positively correlated, $r(578) = .30, p < .01$. When looking at only those who identified as liberal or as conservative, the correlation between beliefs and ideology is a strong one, $r(463) = .64, p < .01$. This suggests that participants’ responses regarding their beliefs about specific political issues were in line with their self-identified political ideology, especially among those with a stronger lean toward liberalism or conservatism.

The use of these measures served as an implicit measure of ideology, as the assessment uses a forced choice between a liberal and a conservative stance, as well as provided for nuance in understanding how motivated reasoning may play a role in participants’ perceptions of memes by measuring participants’ stance on specific issues. Using these two measures of agreement—stated and implicit—helped to limit a mono-operation bias in this important aspect of the study.

Agreement self-report: For each meme stimulus, participants were asked to identify on a 5-point, Likert-type scale their level of agreement (1 = *strongly disagree*, 5 = *strongly agree*) with the stimuli using the prompt: “Would you say that you generally agree or disagree with the idea presented here?” Although the more common approach in political communication research is to present participants with a specific statement about an issue, policy, or candidate from the experimental stimulus (e.g. LaMarre et al., 2014), the agreement measure was presented this way

to keep the question consistent across conditions and specific memes. Moreover, this study was not focused on participants' specific interpretation of the meme's message per se, but rather the extent to which they agreed with it. Asking about agreement in this more general manner avoided question effects that could have been introduced by referring to an argument from the stimulus. Although participants may in fact have perceived different arguments in each meme, the present study was interested simply with their agreement with whatever they saw.

Because participants answered the agreement item three times, once for each meme they saw, one of their three responses were randomly selected for statistical analysis purposes. An online random number generator was used to create a randomized integer sequence as the basis for this random selection. In the sequence, number 1 corresponded with meme A from a given condition, 2 corresponded with meme B, and 3 with meme C. This sequence was matched against participant ID to choose whether to select the participants' response on stated agreement for meme A, B, or C from their condition. These randomly selected responses were then combined into one column in SPSS, sorted by participant ID. Doing so allowed the three measures of agreement to serve as "thermometer readings" of participants' agreement. Because the responses were randomly selected, each meme from each condition is represented in the final variable, allowing the results to be generalized within and across the conditions.

Some analyses in the persuasiveness chapter looked at the relationship between agreement with each individual meme and the persuasiveness ratings for that meme. These analyses used a recoded agreement variable that included those who gave a neutral response on the rating as the factor in one-way on tests of the effectiveness, scrutiny, and discounting means for that meme. Tables with these results can be found in the appendices.

3.4.3 Independent variables: Potential moderators or alternate explanations

Because this study was somewhat exploratory, in that memes' effects are still an understudied area of research, it was useful to measure factors that may have moderated or otherwise explained the study's results, as laid out in RQs 4a-6b. In addition, it was helpful to know more information about who took the survey, to better report the results. Therefore, additional questions regarding third person perceptions of political internet memes, affinity for political humor, general pop culture knowledge, political engagement, media use and basic demographics were asked. The scales of the potential moderating variables had good reliability of $\alpha = .70$ or above, and most had reliability above $\alpha = .80$ (see Table 3 for a summary of reliability figures, means, and standard deviations).

Table 3. Reliability of the moderating variables

Scale/Item	Cronbach's α	Mean	Std. Dev.
Third-Person Perception	.76	-.62	.97
Affinity for Political Humor	.89	3.49	.75
Subj. Knowledge of Pop Culture	.91	3.08	1.10
Political Engagement	.90	1.58	.72
Political Interest*	n/a	3.74	1.15
Media Use	.80	2.45	.68
Meme Use	.72	2.49	.95

*This was a single-item measure. Only the mean and standard deviation are reported.

Third-person perceptions of political memes: To understand how participants perceived the persuasiveness of political internet memes in general, participants were asked to respond to a 4-item, 5-point scale used by Lyons (2013) in a study of memes and the third-person perception effect. These items were useful for understanding whether participants have made a connection between memes and politics, both for themselves and for others. Participants were asked to indicate their level of agreement with the following: "I think political memes do or could influence my [others'] thinking and awareness of current politics," and "I think political memes do or could make me [others] more likely to participate in the political process."

The scale achieved acceptable reliability in the present study, $\alpha = .76$. A third-person effect score was calculated by subtracting participants' total score on the "other" items from the "self" items ($M = -.62$, $SD = .97$).

Affinity for Political Humor: In considering the effects of memes, it is useful to understand individuals' tendency toward consuming political humor, as it could moderate effects of viewing that media. Holbert, Lee, Esralew, Walther, Hmielowski and Landreville (2013) call this tendency Affinity for Political Humor. The Affinity for Political Humor (AFPH) scale is a 5-point, 11-item measure based on reasons people may be drawn to consume political humor; AFPH measures four basic reasons one might experience this affinity, namely incongruity, superiority, anxiety reduction, and social connection. Prompts include statements such as "I appreciate political humor because it can make me feel more knowledgeable about politics" and "I appreciate political humor because it allows me to be friendly with people who hold political views that are different from my own" (Holbert et al., 2013, p. 571).

The scale has previously been tested in independent studies using different datasets, stimuli, and participants and has been found to have very high reliability ($\alpha = .90$ to $.94$) (Hmielowski, Holbert & Lee, 2011; Holbert, et al., 2013). Specific dimensions of the scale have been used independently, as in Becker's (2014b) examination of online political parody, which used only the anxiety dimension of this scale ($\alpha = .78$). Hmielowski et al. (2011) found that AFPH is not correlated with other characteristics, including political ideology and traditional media use, and is distinguished from related concepts, such as a need for humor. Therefore, AFPH can be considered a valid and reliable measure of a person's tendency to appreciate and consume political humor. In the present study, the AFPH scale achieved good reliability ($\alpha = .89$) with a mean of 3.49 and standard deviation of .75.

Subjective knowledge of pop culture: As mentioned in the literature review, individuals' knowledge of pop culture could influence their ability to interpret or decode certain memes' arguments, as many memes reference pop culture to make an argument or statement. Therefore, to measure pop culture knowledge, participants responded to a 5-item, 5-point scale of subjective knowledge (1= *strongly disagree*, 3 = *neither agree or disagree*, 5 = *strongly agree*). Subjective knowledge is "a consumer's perception of the amount of information they have stored in their memory" on a topic (Flynn & Goldsmith, 1999, p. 59), and is thought to be related to or even predict actual consumption, even more so than actual knowledge (Flynn & Goldsmith, 1999).

This subjective knowledge scale was developed in the context of consumer knowledge and was tested in multiple categories, namely fashion, rock music, movies, restaurants, and wine, as well as with student and non-student populations. The scale showed high reliability across five studies, ranging from $\alpha = .88$ to $.94$ (Flynn & Goldsmith, 1999). Although this scale was originally developed using specific consumer categories, many of these categories are related to or are considered part of popular culture (e.g. rock music and movies). Additionally, pop culture is often talked of as something that people consume. For the present study, in the interest of time, participants were asked to rate their knowledge of pop culture in general, rather than ask participants to respond to the same items on a variety of different categories. However, a parenthetical description of what is meant by pop culture was included with each prompt.

The specific items used in the present study were: "I know pretty much about pop culture (such as TV shows or movies, music, or internet sites)" "I do not feel very knowledgeable about pop culture" (reverse scored), "Among my circle of friends, I'm one of the "experts" on pop culture," "Compared to most other people, I know less about pop culture" (reverse scored), "When it comes to pop culture, I really don't know a lot" (reverse scored). Although each

participant may have a different idea of what constitutes pop culture, the scale measures what each feels they know on the topic. As Flynn and Goldsmith (1999) report that subjective knowledge is better connected to consumption than actual knowledge, this measure was expected to capture participants' immersion in pop culture. It appears to have done so. In the present study, the scale achieved high reliability of $\alpha = .91$, with a mean of 3.08 and standard deviation of 1.10.

Media use: Media use was measured by asking participants how frequently (1 = *never*, 5 = *very frequently*) in the past 30 days they had consumed six forms of news media: National broadcast TV news, local broadcast TV news, cable TV news, print newspaper, a news organization's site, and blogs or personal sites (Jones, Hoffman & Young, 2012). In addition, participants were also asked how frequently in the past 30 days they viewed late-night comedy TV shows, broadcast TV dramas, cable comedy TV shows, cable TV dramas and social media sites such as Twitter, Facebook, and Instagram. Finally, participants were asked to identify how frequently in the past 30 days they had looked at internet memes, shared internet memes, and created internet memes. For the purposes of analysis, these last three items were later separated into a meme use scale.

The questionnaire prompt used the following wording: "Below are listed some types of media that you, yourself, may or may not have consumed. For each media type listed, please indicate how often during the past 30 days you, yourself, have consumed that media type. (If you have not consumed one of the listed media types during the past 30 days, choose the "never" option for that media.) For TV or cable media, it does not matter whether or not you time-delayed your watching, such as through a DVR or video streaming service, or watched live. Please make sure that you answer for each type of media." The media use scale achieved good

reliability, $\alpha = .80$, ($M = 2.45$, $SD = .68$) and the meme use scale had acceptable reliability, $\alpha = .72$ ($M = 2.49$, $SD = .95$)

Political engagement: Political engagement measures consisted of a 5-point, 10-item scale and were prefaced by similar language as the media use scale, but directed participants to think of their activity in the past 12 months. The scale was largely adapted from Hoffman's (2012) explication of online political participation and communication, with two offline participation items adapted from Gil de Zúñiga, et al. (2010). Hoffman's (2012) explication of online political participation vs. political communication was drawn from a secondary analysis of Pew Research Center data, and contains 19 activities in total (5 participation activities and 14 communication activities). For the purposes of the present study, 8 of these items were used. Participants were asked to identify how often in the past year (*never to very frequently*) they engaged in the 5 online participation items—e.g. “contributed money online to a candidate” and “started or joined a political group, or group supporting a cause on a social networking site” (2012, p. 223)—and 3 of the 14 online communication activities identified by Hoffman (2012).

The online communication activities assessed specifically asked about commenting on and sharing files or information with others online, practices that are more closely associated with political internet memes than the political communication activities that will not be measured in this study. Items included “shared photos, videos, or audio files online that relate to politics?” “Forwarded someone else’s political commentary or writing, or political audio or video to others?” and “Posted comments, queries, or information about politics in an online discussion forum, blog, social networking site, or Web site of any kind?” Hoffman (2012) reported a high reliability for the online communication behavior items ($\alpha = .86$), but did not specifically state a reliability coefficient for the online participation items.

A 2-item assessment of offline political participation adapted from measures used by Gil de Zúñiga et al. (2010) were added to these 8 items: “Attended a political meeting, rally, or speech,” or “worked for a political party or candidate.” These two items were part of a three-item measure that had good reliability ($\alpha = .82$); the third item was about donating money to a campaign, which was similar to a question already asked as part of the online participation items in the present study. Therefore, it was not asked again.

This combined political engagement scale achieved high reliability in the present study, $\alpha = .90$ ($M = 1.58$, $SD = .72$).

Political interest: The study also measured political interest, as previous research suggests this may be an important factor in political communication research and the strength of the connection between ideology and behavior. Participants were asked to indicate on a scale of 1 (*not at all interested*) to 5 (*very interested*) “Generally speaking, how INTERESTED are you in what is going on in government and public affairs?” (Hoffman & Young, 2011, p. 164). This item is often used in studies of political entertainment. Because it was a single-item measure, reliability was not calculated. The item had a mean of 3.74 and a standard deviation of 1.15.

Perceived funniness of the stimulus: Because humor may be an important component of memes’ appeal and effects, participants were asked to respond to the following statement: “I thought this message was funny” (1 = *strongly disagree* to 5 = *strongly agree*). They answered for each of the stimulus exemplars. For analysis purposes, one of each participants’ three responses were randomly selected, using the same random integer sequence generated for the stated agreement variable, and combined into a single column in SPSS.

Demographics: Participants were asked to respond to typical demographic questions such as age, gender, education level and major at CSU. The demographics of the study participants are discussed in Chapter 3.

Survey completion environment and other questions: Because the survey was taken online instead of a lab, participants were asked to provide information about the environment in which they completed the survey, specifically whether they were working on anything else and how loud the room was. Participants also answered open-ended questions asking them to describe the idea or argument they thought each meme was making; why they look at create, or share memes; why they think others might look at, create, or share memes; and whether they think memes shared on social media are an important way people can be involved in the political process.

Additional perceptions and manipulation checks: In any experimental research, it is important to measure items related to the manipulation. In the present study, this will include prior familiarity with the stimulus. Familiarity with the experimental stimuli was measured by asking participants whether they have seen the messages used in the stimulus prior to their participation in the study (*yes, no, unsure/don't know*) and whether they had participated in the pilot study. For the text-only conditions, the post-test questionnaire included a question to ascertain whether the participant recognized the text-only message as being an internet meme.

3.5 Validity of the Stimuli and Procedures

This section discusses the internal validity, or validity of the cause-and-effect inferences being made of this study. An experimental study that lacks internal validity will likely not be a meaningful one (Hansen & Pfau, 2013), as the point of an experiment is typically to establish a cause and effect relationship between variables. Additionally, external validity, or the likelihood

the study results will hold up across settings, participants, and treatments (Shadish et al., 2002) is an important consideration in political communication research. Because the goal of much of political communication research is to be able to make inferences to real-world processes with implications for policy, practice, and future research, scholars have suggested that ecological validity is an important element to consider in designing political communication studies (Iyengar, 2013). It is difficult for one experiment to be extremely high in both internal and external validity, as often adjustments for one weaken the other (Shadish et al., 2002), often researchers must make thoughtful tradeoffs within their study design. Because of the importance of external validity to political communication research, the design places some emphasis on it, but considerations for each validity type were addressed within the present study.

3.5.1 Internal validity

Internal validity refers to the validity of the causal relationship within the context of those treatments, settings and participants used in the study (Shadish et al., 2002). Although this study is concerned with a real-world phenomenon and cannot eliminate all other potential explanations for the results from the study, care has been taken to measure as many of them as possible. Additionally, the use of multiple operationalizations and measurements of the variables is expected to contribute to strong construct validity, and by extension, the internal validity of the present study.

Variable order ambiguity: In this study, participants viewed the stimuli first, before beginning the post-test, which should have reduced variable order ambiguity. Although the present study lost some internal validity by not creating unique experimental stimuli—which could eliminate the possibility of some alternate explanations stemming from the stimuli—using memes created specifically for this study could have diminished the validity of the results by not

accurately reflecting the phenomenon of internet memes, as they would not meet the definition of multiple texts created by many users and circulated widely online. As such, memes created by the researcher could seem inauthentic to participants.

History effects: Because the study did not use a pre-test and occurred in only one session, it was not expected that individual respondents would experience maturation or history effects. However, because the study was conducted over an entire month and because April 2016 did see some changes in the shape of the primary race, history effects could still be a concern to the validity of the study. It could have been possible that participants who participated later in the month responded differently than those who participated earlier in the month due to current events going on around them.

To test whether there were any significant differences between participants who took the survey during the first half of the month and those who took the survey during the second half of the month on their responses to the key dependent variables, a one-way analysis of variance test was performed. A variable was created where 1 = participants who took the survey between April 1 and April 15, 2016, and 0 = participants who took the survey between April 16 and April 30, 2016.

The ANOVA revealed there were no significant differences in the responses on the key dependent variables (positive affect, $F(1, 631) = 1.91, p = .167$; negative affect, $F(1, 631) = .15, p = .700$; aversion, $F(1, 631) = .08, p = .781$; message effectiveness, $F(1, 508) = .51, p = .477$; argument scrutiny, $F(1, 508) = .48, p = .487$; and message discounting, $F(1, 508) = .00, p = .953$) between participants who participated in the study in the first half of April 2016 and those who participated during the second half of April 2016. Therefore, history effects are not considered a threat to the validity of the results of this study.

Meme familiarity: It is possible that participants had seen the memes used as stimuli before participating in the study, or that current events at the time of the study influenced perceptions of the stimuli. However, because memes are generally seen multiple times in natural settings, repeated exposure may reflect more typical exposure. This repetition may increase affective responses to stimuli (Bradley, Cuthbert & Lang, 2007), but repeated viewing may also reduce message fatigue or desensitization in emotion-inducing media (Hitchon & Thorson, 1995). Therefore, though prior exposure was assessed in the survey, it was not expected to have a significant impact on the outcome variables of interest.

To see if prior exposure played a role in participants’ responses, Pearson correlations were conducted to look for any correlations between participants’ answers to whether they had seen the stimuli before and their responses to the major outcome variables were performed. Two weak but statistically significant positive correlations (see Table 4) were found in the text-only conditions. Because the two correlations were weak and only associated with the text-only conditions, it is not thought that familiarity influenced the overall study results. This is discussed further in Chapter 6.

Table 4. Correlations between manipulation check items and the outcome variables

	Seen Before? (Visual Memes)	Seen Before? (Text Memes)	Remind of Meme? (Text Only)
PANAS – Positive	.00	.00	.17*
PANAS – Negative	.06	.16*	.03
PANAS – Aversion	.05	-.02	.06
Effectiveness Mean	-.070	.030	-.044
Scrutiny Mean	-.064	-.091	.089
Discounting Mean	.057	.039	.070

* $p < .05$

Selection bias: Participants were randomly assigned to each condition via the survey software Qualtrics, but because the sample is small to moderate in size, an unintentional selection bias may have been produced. To assess whether the randomization process normally distributed participants of different political ideologies to the various experimental conditions, frequencies for participants' political ideology split by condition assignment were calculated. The percentage of participants in each condition identifying as liberal, moderate, conservative, or who did not know their political ideology is displayed in Figure 7.

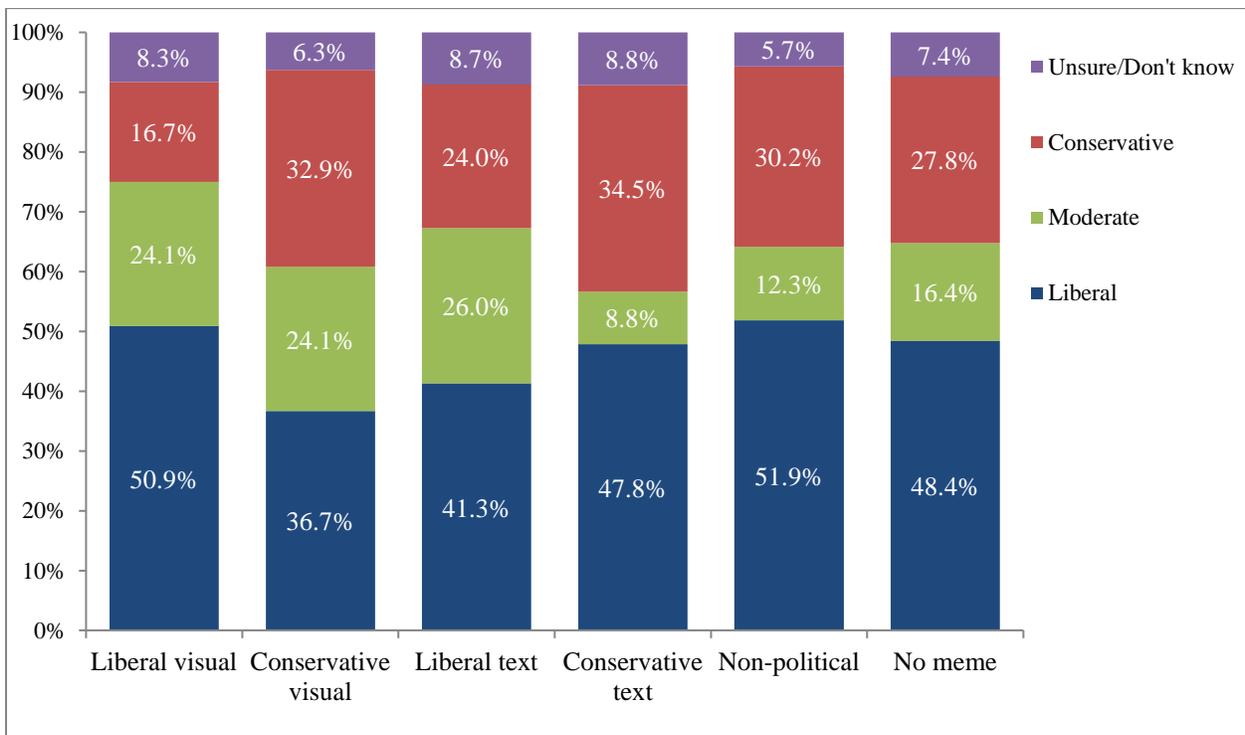


Figure 7. Distribution of political ideology by condition.

Looking at the text-only and visual political meme conditions combined by political ideology, this means that of those assigned to view liberal memes (visual or text-only versions), 46.2% of participants were liberal and 20.3% were conservative, and of those assigned to view conservative memes (visual or text-only versions), 33.9% of participants were politically conservative and 43.2% were politically liberal. These percentages are each well within +/- 1.5

times the overall sample distribution of participants' liberal/conservative ideology (46.6% liberal, 27.5% conservative), suggesting that the software randomization worked relatively well in this study to distribute participants evenly across the conditions based on political ideology.

Participants also answered political favorability ratings for political issues and figures, some of which were depicted in the study stimuli. These items were answered toward the beginning of the post-test, prior to answering any questions about one's own political affiliation, and so could potentially have been influenced by viewing the meme stimuli. An ANOVA did not reveal any statistically significant differences among the experimental conditions on any of the individual favorability ratings ($p < .05$). There were no significant differences based on which memes, or no memes, were seen between participant ratings of any of the political party, issue, or figure assessments, suggesting that the results of the present study were likely not due uneven distribution of the participants based on their favorability toward figures and issues depicted in the memes.

Demand characteristics and social desirability: The fact that participants completed the survey on their own should have also helped to reduce demand characteristics or social desirability in answering the questionnaire prompts, as participants were not in the presence of the researcher while completing the survey (Fowler, 2014). A reminder that there were no right or wrong answers was included with many of the questionnaire items, including the perceived argument, argument agreement, and persuasiveness measures, to additionally reduce social desirability characteristics. Although demand characteristics are more closely related to construct validity, good construct validity can strengthen internal validity by improving the cause-and-effect relationship (Shadish et al., 2002), and so they were important to consider here.

Participation environment: As each participant was likely complete the questionnaire in a slightly different environment as far as noise or time of day, a primary disadvantage of online, self-administered surveys (Fowler, 2014), participants were asked to answer a couple of questions about their environment at the time they completed the study. To see if environment played a role in participants' responses, Pearson correlations were conducted to look for any correlations between participants' reported noise level in the room they were working, whether they were working on other activities as they took the survey, whether they had seen the memes before, and their responses to the major outcome variables. None were found ($p > .05$ for all tests).

3.5.2 External validity

As noted, external validity is concerned with the generalizability of a study—how inferences about the observed causal relationship hold up “over variations in persons, settings, treatments, and outcomes” (Shadish et al., 2002, p. 83). Although researchers often must emphasize one over the other, one way for researchers to determine which to emphasize in each study is to consider what type of research is being conducted and what sorts of questions the researcher hopes to be able to answer. Because the present study was research that sought to understand how phenomena function in the real world, a choice to emphasize external validity in some of the design choices was made, particularly as related to the stimuli and procedures.

The choice to use existing memes was helpful for internal validity, but even more so for external validity. As the present study hoped to demonstrate the effects of real-life memes on potential voters, using real memes can aid in moving the study results from the realm of the hypothetical to the practical. Additionally, the use of multiple memes for each condition increased the external validity of the results by extending the contexts or issues studied beyond

just one topic area. Doing so will help to ensure that the study is measuring and assessing the effects of political internet memes as a phenomenon, and not simply the effects of one meme. See the discussion of limitation of the present study in Chapter 6 for more on this.

3.5.3 Ecological validity

Ecological validity reflects how well the experimental “settings and subjects represent real-world conditions” (Berkowitz & Donnerstein, 1982, p. 245). Iyengar (2013) has noted that political communication researchers are particularly limited in their ability to generalize study results to the real world, due in large part to the vast differences between the laboratory environment and the everyday world in which people experience politics and political media. Whenever possible, political communication research should seek to incorporate ecological validity into research to make stronger connections with the real-world phenomenon under consideration. The need for ecological validity was incorporated into the present study’s design through the selection of experimental stimuli and procedures.

The decision to conduct an online survey was also made to increase ecological validity of the study by better matching the real-world conditions in which people view memes (Berkowitz & Donnerstein, 1982). The fact that the phenomenon of interest to the present study, political internet memes, is itself a product of the internet contributed to this decision to use an online survey administration. Additionally, the use of real memes as the stimuli increased the ecological validity of the study. Although some participants may have seen a given meme prior to their participation in this study, or one like it, this reflected the modern media environment in which mainstream news media outlet, particularly their online outlets, now include round ups of top memes in their coverage of political events. Because memes are a spreadable media, it is likely that heavy—and increasingly, even casual—media users would have encountered a successful

meme, or versions of it, more than once. It is possible that memes' effects in the real world may come in part through repeated viewing.

By using real-world memes as stimuli as well as online, self-administered surveys in a setting of the participant's choice, the present study addresses two of the three dimensions of ecological validity outlined by Schmuckler (2001), namely that of the experimental setting and the experimental stimuli. Doing so should help with validity of the study's results to answer questions about political internet memes in the real world.

3.6 Data Analysis Approach

Several statistical analyses were used to analyze the survey data collected. This project examined between-subjects effects of viewing internet memes in visual and textual forms, as well as compared the effects of political vs. non-political internet memes. Questionnaire responses were downloaded from Qualtrics in SPSS format for analysis. Reverse-coded items from the scales were recoded so that items were consistent with one another for analysis. Descriptive statistics (means, medians, standard deviations, ranges) were calculated for each variable in a manner appropriate to each (Allen & Seaman, 2007). Reliabilities for each scale were tested using a Cronbach alpha test (Cronbach, 1951) using a threshold of $\alpha = .70$.

Hypotheses were tested using analysis of variance tests (ANOVAs). Secondary analyses of the effects of the potential moderating variables were tested using ANOVAs for tests of difference, and Pearson correlation coefficients or regressions for tests of relationships as appropriate. Because the standard in social science research for statistical significance is $p < .05$, this study used that standard to report statistically significant results. In most cases, the actual p value is reported.

ANOVA requires certain assumptions to be met, including: independence of observations, homogeneity of variance of the dependent variable across groups, and normal distribution of the dependent variable (Morgan et al., 2007). Because each participant in this study was only assigned to one group and there are no within-subject measures, the assumption of independence of observations required for ANOVA was met. Normal distribution of each of the dependent variables was considered to assess that assumption for each and is discussed in relation to specific analyses in the two results chapters that follow. The Levene test was used to test the assumption of homogeneity of variances. When the assumption of homogeneity of variances was not violated, Tukey post hoc tests were used to explore statistically significant ANOVAs in more depth. When the assumption of homogeneity of variances was violated in a specific test, as evidenced by a statistically significant result on the Levene test, the Games-Howell post hoc test was used to explore any statistically significant ANOVA results.

Table 5 summarizes the relationships among the hypotheses and research questions, and data sources. The primary dependent variables are the PANAS and the three persuasiveness scales, message effectiveness, argument scrutiny, and message discounting. The primary independent variables are participant political ideology, stated agreement, and the potential moderating variables such as subjective knowledge of pop culture, affinity for political humor, political engagement, political interest, and media use.

Table 5. Hypotheses and corresponding data sources and variables.

Hypothesis/research question	Data Source	Variables
H1: Viewing <i>visual versions</i> of political internet memes will result in <i>stronger affective reactions</i> than viewing textual versions of the same memes.	<ul style="list-style-type: none"> ▪ Stimulus ▪ Survey response 	<ul style="list-style-type: none"> ▪ PANAS (DV)
RQ1: Does the relationship between viewing <i>political</i> internet memes and affect differ from the relationship between viewing <i>non-political</i> internet memes and affect?	<ul style="list-style-type: none"> ▪ Stimulus ▪ Survey response 	<ul style="list-style-type: none"> ▪ PANAS (DV)
H2: People who view political internet memes they <i>agree</i> with will report more <i>positive</i> affect than will people who disagree with the memes.	<ul style="list-style-type: none"> ▪ Stimulus ▪ Survey response 	<ul style="list-style-type: none"> ▪ Agreement self-report (IV) ▪ Political Ideology (IV) ▪ PANAS (DV)
H3a: Viewing <i>visual versions</i> of political internet memes will result in perceiving memes to be <i>more persuasive</i> than viewing textual versions of the same memes.	<ul style="list-style-type: none"> ▪ Stimulus ▪ Survey response 	<ul style="list-style-type: none"> ▪ Persuasiveness Scales (DV)
H3b: People who view <i>political</i> internet memes will report memes as being <i>more persuasive</i> than those who view <i>non-political</i> internet memes.	<ul style="list-style-type: none"> ▪ Stimulus ▪ Survey response 	<ul style="list-style-type: none"> ▪ Persuasiveness Scales (DV)
H4: People who see political internet memes they <i>agree</i> with will perceive memes to be <i>more persuasive</i> than will people who disagree with the memes.	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ Political ideology (IV) ▪ Agreement self-report (IV) ▪ Persuasiveness Scales (DV)
RQ 2a: What is the relationship between political humor affinity and affective responses to memes?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ AFPH (IV) ▪ PANAS (DV)
RQ 2b: What is the relationship between political humor affinity and perceptions of meme persuasiveness?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ AFPH (IV) ▪ Persuasiveness Scales (DV)
RQ 3a: What is the relationship between political engagement and affective responses to memes?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ Political engagement, interest (IV) ▪ PANAS (DV)
RQ 3b: What is the relationship between political engagement and perceptions of meme persuasiveness?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ Political engagement, interest (IV) ▪ Persuasiveness Scales (DV)
RQ 4a: What is the relationship between familiarity with popular culture and/or media use and affective responses to memes?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ Subjective Knowledge (IV) ▪ Media Use (IV) ▪ PANAS (DV)
RQ 4b: What is the relationship between familiarity with popular culture and/or media use and perceptions of meme persuasiveness?	<ul style="list-style-type: none"> ▪ Survey response 	<ul style="list-style-type: none"> ▪ Subjective Knowledge (IV) ▪ Media Use (IV) ▪ Persuasiveness Scales (DV)

4 RESULTS: THE AFFECT OF MEMES

This chapter addresses the impact on affect of political and non-political memes. Chapter 5 presents the results of analyses addresses the impact of memes on persuasiveness. This chapter addresses hypotheses 1 and 2, and research questions 1, 2, 4a, 5a, and 6a:

- **H1:** Viewing visual versions of political internet memes will result in stronger affective reactions than viewing textual versions of the same memes.
- **H2:** People who view political internet memes they agree with will report more positive affect than will people who disagree with the memes.
- **RQ1:** Does the relationship between viewing political internet memes and affect differ from the relationship between viewing non-political internet memes and affect?
- **RQ3a:** What is the relationship between political humor affinity and affective responses to memes?
- **RQ4a:** What is the relationship between political engagement and affective responses to memes?
- **RQ5a:** What is the relationship between familiarity with popular culture and/or media use and affective responses to memes?

First, a discussion of the measures addressed in this chapter is presented. Next, specific analyses pertaining to each research question or hypothesis are provided.

4.1 Reliability Testing

4.1.1 Reliability of the dependent affect measures

The Positive and Negative Affect Schedule, along with the four items measuring aversion, were analyzed for reliability using Cronbach's alpha. The items for each subscale were averaged into scale indices for positive affect, negative affect, and aversion. Except for the aversion subscale, all achieved acceptable reliability of $\alpha = .70$ or higher. Aversion was improved to acceptable reliability by removing the item "contempt" from the scale. This reduced, three-item version of the aversion subscale was then used in subsequent analyses. The three subscales were approximately normally distributed. Table 6 presents the reliability, means,

and standard deviations for the scales and for the single-item Global Affect measure. As a single-item measure, the Global Affect item does not require a test of scale reliability. It is normally distributed.

Table 6. Affect scale reliability, means and standard deviations

Scale/Item	Cronbach's α	Mean	Std. Dev.
Positive Affect	.91	2.45	.89
Negative Affect	.85	1.58	.60
Aversion	.77	1.50	.72
Global Affect	n/a	3.18	1.09

4.1.2 Reliability of the independent measures and moderating variables

The two measures of agreement, as well as the reliability of the other potential moderating variables – specifically affinity for political humor, subjective knowledge of pop culture, political engagement, political interest, media use, meme use, and perceived funniness of the memes – were addressed in detail in Chapter 3, sections 3.2.2 and 3.2.3. All scales achieved acceptable reliability of at least $\alpha = .70$, with all but one (the meme use scale) over at least $\alpha = .80$ using Cronbach's alpha to test internal consistency.

4.1.3 Favorability of political figures, entities, and issues.

There were significant differences on nearly all the favorability ratings based on participants' political self-identification ($p = .05$), with liberals more favorable toward liberal policies and figures than conservatives and vice versa. In a notable exception, the favorability ratings for Hillary Clinton and Donald Trump were *not* statistically significantly different based on participants' political self-identification. Because there were no significant differences in these favorability ratings based on participants' assignment to any meme-viewing or non-meme-viewing condition (as discussed in Chapter 3), but there were differences as expected along political party or ideological lines, it can be concluded that these ratings were not an outcome

themselves of viewing the internet memes. However, these favorability ratings may be a sign of the influence partisanship and political ideology may have on affect or on perceptions of memes' persuasiveness.

4.2 Hypothesis Testing: H1 and H2

4.2.1 Testing H1: Visual vs. text-only memes and affect

The first hypothesis stated that viewing visual versions of political internet memes will result in stronger affective reactions than viewing text-only versions of the same memes. To test H1, first, a one-way analysis of variance (ANOVA) test was performed on each of the three PANAS subscales by grouping the two text (liberal and conservative) conditions and the two visual (liberal and conservative) conditions to look for differences in affect based on whether participants saw visual memes or textual versions of the memes. No statistically significant differences were found between those who viewed visual versions of political internet memes and those who viewed text-only versions of the same memes on positive affect, $F(3, 402) = .401, p = .527$; on negative affect, $F(1, 402) = .720, p = .397$; or on aversion, $F(1, 402) = 1.71, p = .191$. See Figure 8 for a visual comparison of the means on the PANAS subscales between the visual and text-only versions of the political memes.

To test whether there were differences on affect depending on whether participants saw conservative or liberal visual or text-only memes, a one-way analysis of variance was performed on each of the three PANAS subscales a created variable where 1 = visual liberal political memes, 2 = visual conservative political memes, 3 = text-only liberal memes, 4 = text-only conservative memes as the factor. Again, no statistically significant differences were found among the various political meme levels and positive affect, $F(3, 400) = .206, p = .892$; negative

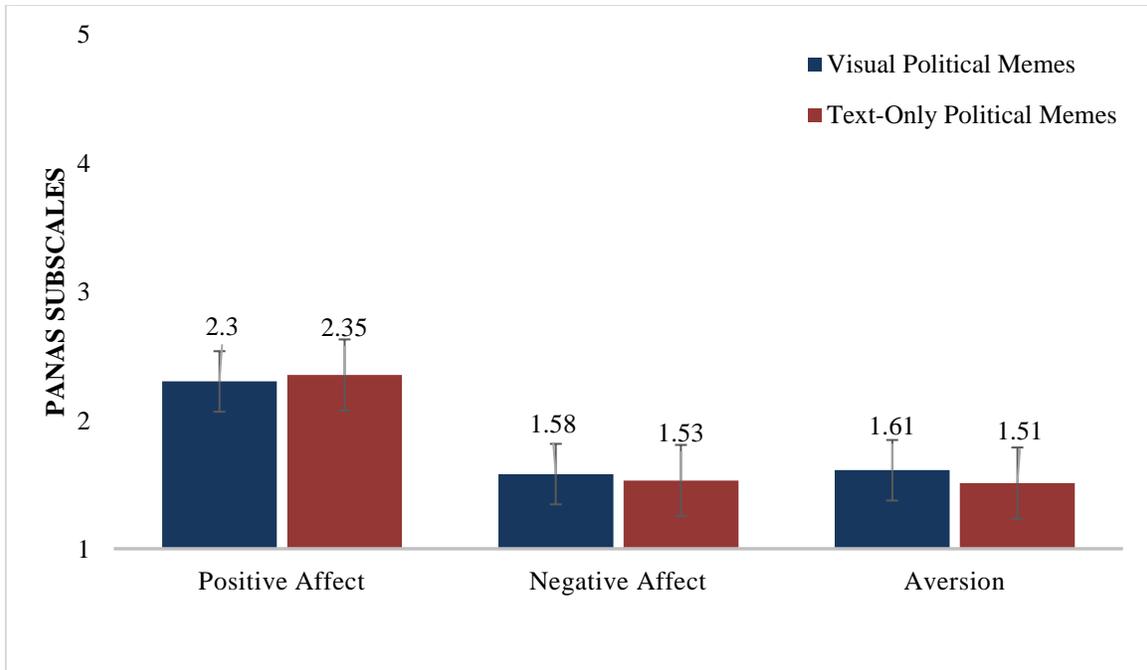


Figure 8. Affect means of visual vs. text-only political memes

affect, $F(3, 400) = .526, p = .665$; or aversion, $F(3, 400) = .832, p = .477$. See Figure 9 for a visual comparison of the means.

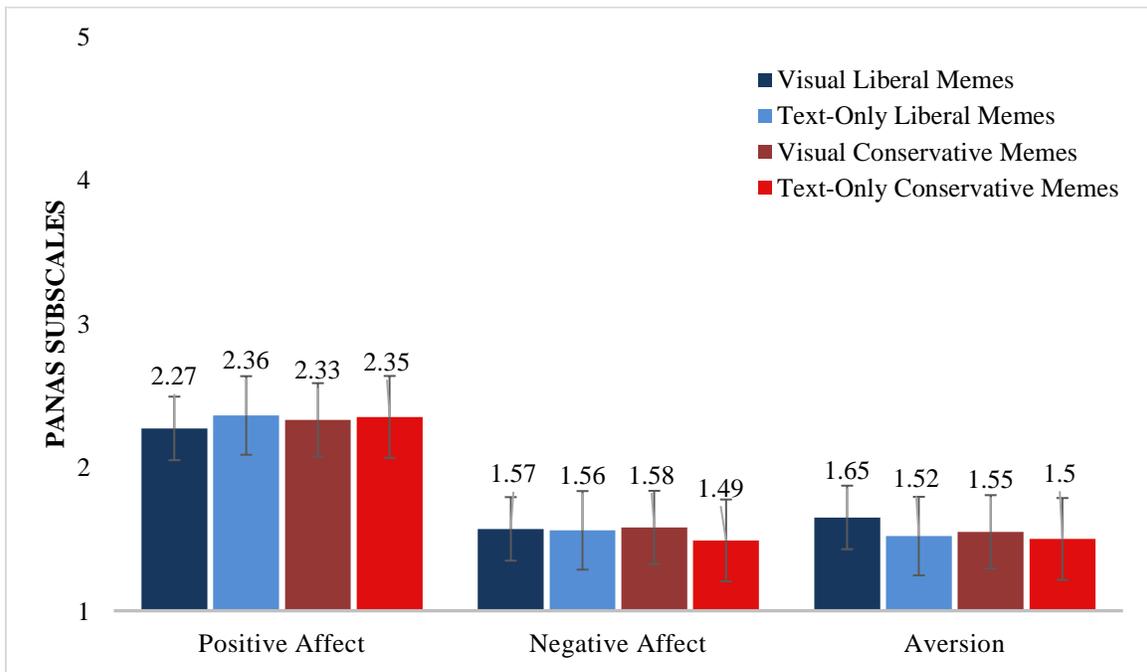


Figure 9. Visual vs. text-only political memes' affect, separated by political ideology.

Based on these results, H1 is not supported. Viewing visual versions of political internet memes does not result in stronger affective reactions to the memes as compared to viewing text-only versions of the same memes, regardless of whether the memes are liberal or conservative in political stance.

4.2.2 Testing H2: Agreement with the meme and positive affect

The second hypothesis stated that people who view political internet memes they agree with will report more positive affect than those who disagree with the memes they see. Agreement was conceptualized in two different ways: The first way was whether participants were assigned to a political meme condition with a matching ideological stance to their own, and the second way was whether participants indicated on the questionnaire that they agreed with each meme they viewed.

To test this hypothesis, first, agreement based on political ideology was addressed. A two-way, factorial analysis of variance was conducted using a created variable to represent the four political meme conditions and participants' political ideology – collapsed into liberal, conservative, and moderate ideology – as the factors, and the positive affect subscale of the PANAS to see whether those participants whose political self-identification matched that of their experimental condition reported more positive affect. The assumption of homogeneity of variances was tested using the Levene test, and was not violated. The interaction between political meme condition assignment and political self-ID was not significant, $F(6, 359) = .44, p = .850$. Neither were the main effects significant ($p > .05$), indicating that there were no significant differences on positive affect among participants assigned to view political internet memes based on whether their own political ideology matched that of their assigned condition.

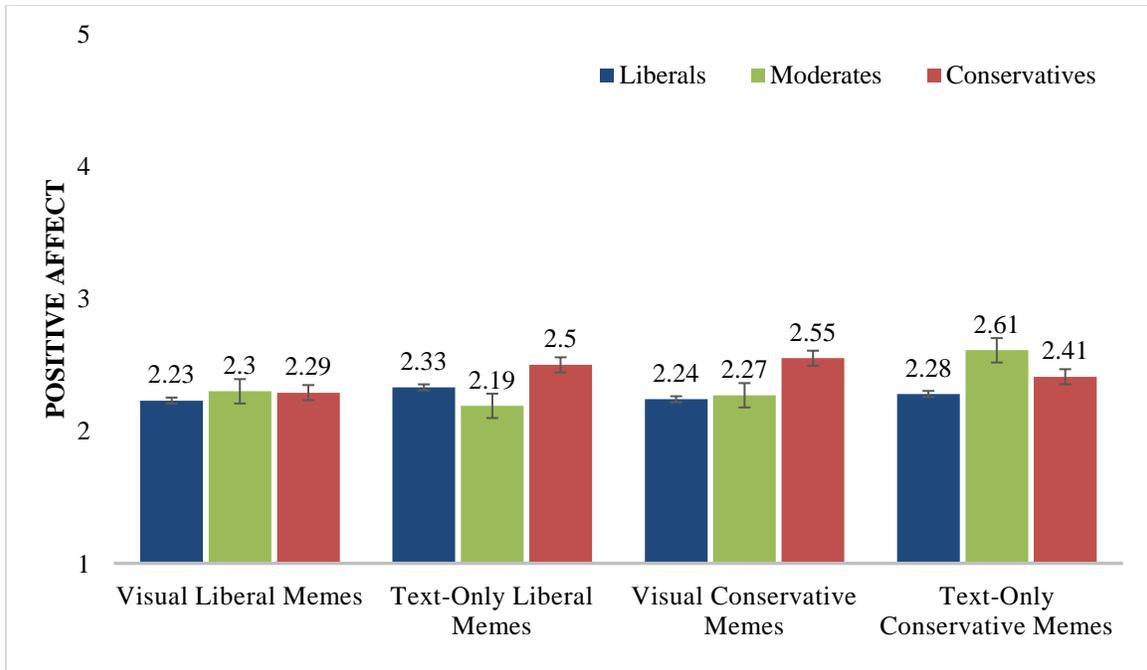


Figure 10. Positive affect means in political meme conditions by participant ideology

Figure 10 visually compares the positive affect means of those assigned to view political memes based on whether their ideology matched the assigned condition.

Second, as a check that this finding was not simply a result of including those who identified as politically moderate in the analysis (whose ideology would not directly “match” with either liberal or conservative political memes) a second two-way ANOVA was performed, this time including only those participants who identified as either liberal or as conservative. The interaction between political meme condition assignment and political self-identification was still not statistically significant, $F(3, 281) = .200, p = .896$, when excluding moderates. Therefore, the previous results are not a factor of including political moderates in the analysis. There were no significant differences on positive affect based on whether the participants’ political ideology matched that of their assigned experimental condition.

Though the hypothesis did not include negative affect and aversion, two-way ANOVAs were performed with those subscales as well. As with positive affect, no significant differences

existed among those of liberal, conservative, or moderate political ideology based on which political memes they saw on negative affect, $F(6, 359) = .121, p = .994$, or aversion, $F(6, 359) = 1.03, p = .407$.

Stated agreement: Next, to test whether participants' stated agreement with memes in their assigned political meme condition made a difference on positive affect, a two-way ANOVA was performed. Participants answered the question about whether they agreed with the idea contained in the meme three times, once for each meme in their assigned condition. As previously discussed, one answer for each participant was randomly selected and used in these analyses. The assumptions of independent observations, homogeneity of variances, and normal distribution of the dependent variable were checked and were not violated.

The interaction between political meme condition assignment and agreement was not significant, $F(12, 383) = 1.12, p = .346$, indicating there were no significant differences on positive affect among participants assigned to view political internet memes based on whether they agreed or disagreed with the meme. The main effects of political meme condition, $F(3, 383) = .56, p = .645$, and agreement, $F(3, 383) = 1.15, p = .333$, were each also not significant. Figure 11 depicts the positive affect means of those assigned to view political internet memes based on how many memes they saw that they agreed with.

Negative affect and aversion based on agreement were also checked. There was no significant interaction between political meme condition and agreement on negative affect, $F(12, 383) = .82, p = .627$, or on aversion, $F(12, 383) = 1.32, p = .204$.

Based on these results, H2 is not supported by either method of agreement.

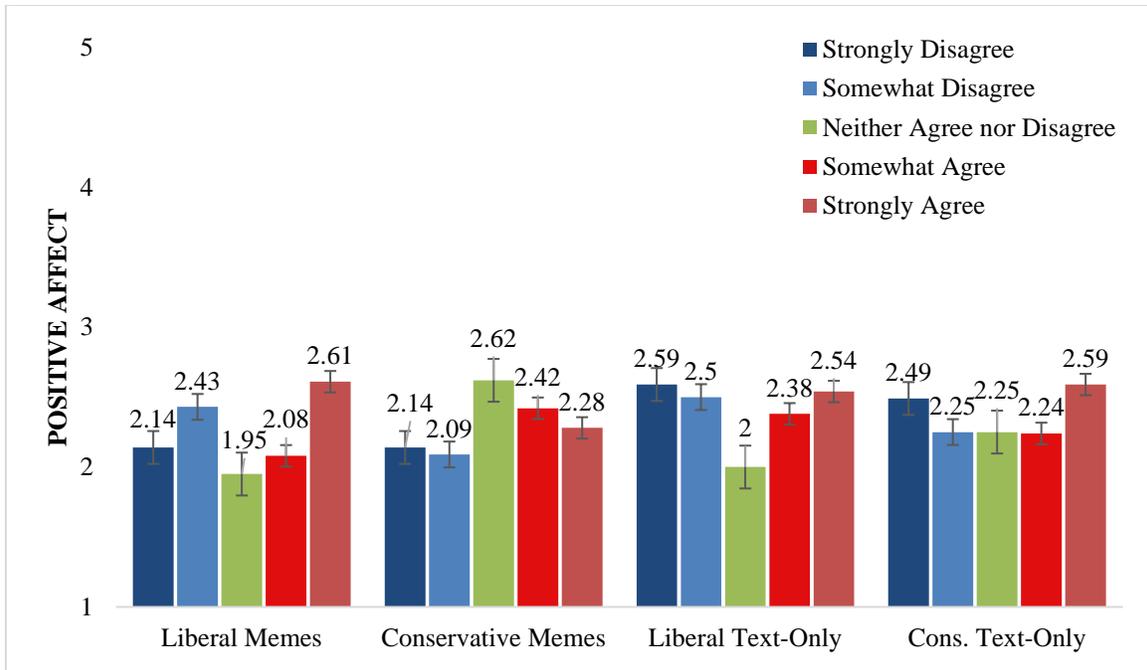


Figure 11. Positive affect among political meme conditions by level of agreement.

4.3 Research Question Testing

4.3.1 RQ1 - Political vs. non-political memes vs. no memes

The first research question asked, “Does the relationship between viewing political internet memes and affect differ from the relationship between viewing non-political internet memes and affect?” To answer this question, first, a one-way ANOVA comparing the combined political meme conditions to the no-meme comparison group and to the non-political meme condition on the three PANAS subscales was performed. Statistically significant differences were found on positive affect, $F(2, 630) = 21.66, p < .001, \eta_p^2 = .06$, and on aversion, $F(2, 630) = 3.33, p = .037, \eta_p^2 = .01$. No statistically significant differences were found among the conditions on negative affect.

Post hoc Tukey HSD tests indicated that those in the comparison group had significantly higher positive affect than both those assigned to any of the political meme conditions or to the non-political meme condition ($p = < .001$). Because the assumption of homogeneity of variances

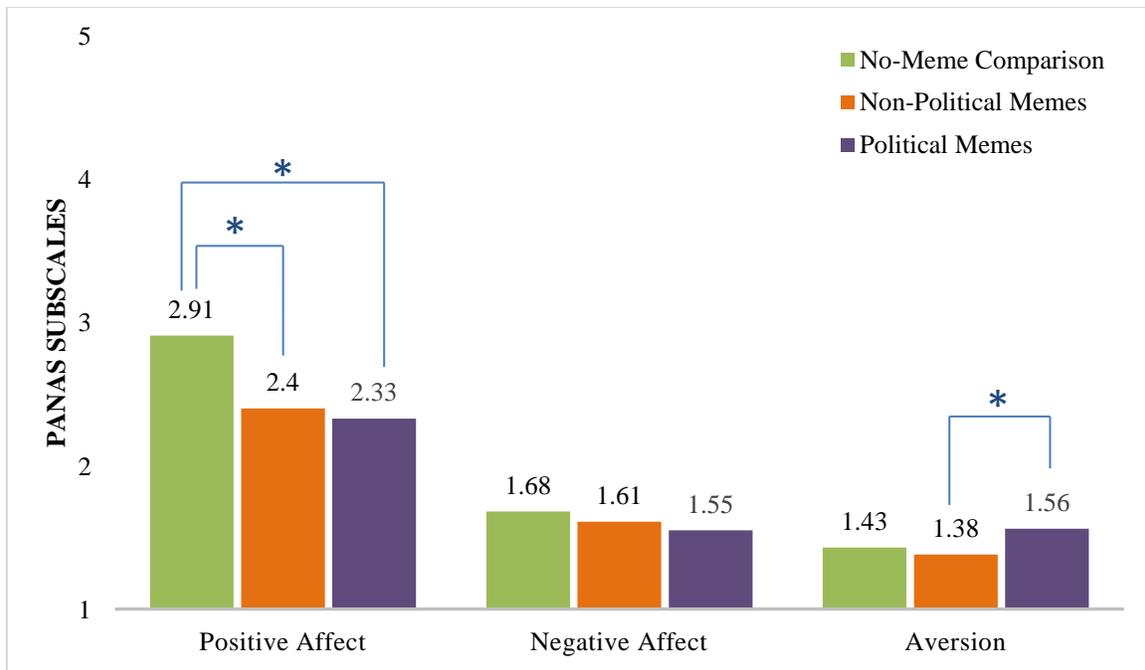


Figure 12. Affect subscale means by meme type

was violated on the aversion subscale, a Games-Howell post hoc test was used to examine that difference among conditions further. Those who saw political internet memes experienced significantly more aversion than did those who saw non-political memes ($p < .05$). Figure 12 visually displays the means on the three PANAS subscales, comparing the combined political meme conditions to the non-political condition and to the no-meme comparison group condition, with the statistically significant differences marked by asterisks.

To doublecheck whether these observed differences in affect between the comparison group and the experimental conditions could be a function of the post-test questionnaire itself (i.e. having fewer questions to answer before responding to the PANAS), a one-way ANOVA was performed to compare those in the conservative visual meme condition who were removed from the study due to a survey flow error to those in that same condition who did not experience the survey flow issue. Those participants who were removed saw the initial display of memes and then answered the global affect item and the political issue and figure favorability ratings,

but then moved directly to the PANAS without answering the persuasiveness items, in a post-test questionnaire flow mimicking that of the no-meme comparison group.

The one-way ANOVA revealed there were no statistically significant differences on any of the affect subscales between those in the conservative meme condition who answered the persuasiveness items prior to completing the PANAS and those who did not (the removed participants). A one-way ANOVA comparing the no-meme comparison group to the removed participants, who did see the initial display of visual conservative political memes, and a follow-up Tukey post hoc test indicated that those in the no-meme comparison group had significantly higher positive affect than the participants who were removed from the conservative meme condition, $F(2, 234) = 11.28, p < .001$. Based on these results, it can be concluded that the significantly lower positive affect reported by those who saw internet memes is, in fact, a result of seeing memes, and not due to the design of the survey instrument.

Global Affect: As a secondary measure of affect, participants were asked to indicate how positive or negative overall they felt at that moment. To see if there were significant differences among participants on their assessment of their global affect based on whether they saw political memes, non-political memes, or no memes at all, a one-way ANOVA was performed. A significant difference was found, $F(5, 627) = 16.41, p < .001$. The Levene test for homogeneity of variances was violated, so the Games-Howell post hoc test was used to examine this difference further.

The results reveal that those in the non-political meme condition ($M = 3.73, SD = .87$) and those in the no-meme comparison group condition ($M = 3.61, SD = .93$) had significantly higher means on the Global Affect item, indicating feeling more positive, than those in any of the four political meme conditions. That is, those in the political meme conditions rated themselves

as feeling significantly more negative overall than those assigned to view non-political memes or no memes at all. There was no significant difference between those in the non-political meme condition and those in the no-meme condition, or among any of the four specific political meme conditions, on Global Affect. This supports the previously reported results, which indicate that viewing political internet memes dampened positive affect and increased aversion, and that there was no difference between visual and text, conservative or liberal political memes.

4.3.2 RQ2a, RQ3a, RQ4a: Moderating variables and affect

Research questions 2a, 3a, and 4a asked about the relationship between potential moderating variables – including affinity for political humor (AFPH), political engagement, and media use – and affect. Previous results indicated that those who did not see any internet memes at all experienced significantly more positive affect than those who saw political memes, and those who saw political memes experienced significantly more aversion than those who saw non-political memes. First, Pearson correlation coefficients between these variables, as well as some demographic variables, and the dependent variables are presented (see Table 7).

Table 7. Correlations between affect and the potential moderating variables

	Positive Affect	Negative Affect	Aversion
AFPH	.10*	.05	.05
Political Engagement	.19**	.06	.03
Political Interest	.13**	-.02	-.01
Pop Culture Knowledge	.06	-.08*	-.01
Media Use	.19*	-.01	.03
Meme Use	.10*	.10*	.10*
Gender	-.11*	.01	-.03
Age	-.06	-.01	.02
Funniness	.10*	-.05	-.12**

* $p < .05$ ** $p < .01$

Next, to test whether the previously reported significant differences to positive affect and aversion between meme types remained after controlling for these other variables, one-way

analysis of covariance (ANCOVA) tests were performed. Multiple regression analysis follows these to see how the variables work together to explain affective responses.

4.3.2.1 RQ3a: Affinity for Political Humor and affect

Affinity for political humor is weakly positively correlated with positive affect. To test whether observed differences based on which memes participants saw still existed after controlling for affinity for political humor, one-way ANCOVA tests on positive affect using condition assignment as the factor and participants' mean score on the affinity for political humor scale as the covariate.

Results indicate that after controlling for affinity for political humor, there is still significant difference on positive affect between participants, $F(5, 625) = 8.24, p < .001, \eta_p^2 = .06$. The contribution of affinity for political humor was significant, $F(1, 625) = 4.54, p = .033, \eta_p^2 = .01$. Post hoc pairwise comparisons using the Bonferroni correction for tests of significance when running multiple analyses indicated that those in the no-meme comparison condition had significantly higher positive affect than those assigned to all other conditions even after controlling for affinity for political humor. Affinity for political humor does not moderate positive affect.

4.3.2.2 RQ4a: Political engagement, political interest, and affect

RQ4a asked about the relationship between political engagement as a moderating variable and affective responses to memes. It was also decided to test political interest. Both are weakly positively correlated with positive affect. To test whether significant differences remained among participants based on which memes they saw after controlling for political engagement, two ANCOVA tests were performed, one with political engagement as the covariate, and one with political interest as the covariate.

Political engagement: Results indicate that after controlling for political engagement, there is still a significant difference on positive affect between participants, $F(5, 625) = 8.53, p < .001, \eta_p^2 = .06$. The main effect of political engagement itself was also significant, $F(1, 625) = 23.20, p < .001, \eta_p^2 = .04$. As expected, post hoc pairwise comparisons using the Bonferroni correction indicated that those in the no-meme comparison condition had significantly higher positive affect than those assigned to all other conditions, even after controlling for political engagement. Political engagement is not a moderator of positive affect.

Political interest: The results indicate that after controlling for political interest, a statistically significant difference remains on positive affect, $F(5, 591) = 8.66, p < .001, \eta_p^2 = .07$. The effect of political interest itself was also significant, $F(1, 591) = 10.31, p < .001, \eta_p^2 = .02$. Post hoc pairwise comparisons with Bonferroni corrections to significance tests indicate those in the no-meme comparison group reported significantly more positive affect than those assigned to the other conditions even after controlling for political interest. Political interest is not a moderator of positive affect.

4.3.2.3 RQ5a: Pop culture knowledge, media use, meme use, and affect

Research question 6a asked about other relationships between other moderating variables – specifically knowledge of popular culture, media use, and meme use – and affect.

Subjective Knowledge of Pop Culture: Subjective knowledge of pop culture was weakly negatively correlated with negative affect, but because there were no significant differences on negative affect based on which memes, or no memes, that participants saw, an ANCOVA with subjective knowledge of pop culture was not performed.

Media Use: Media use was weakly positively correlated with positive affect. To test whether significant differences remained on positive affect based on which memes, or no

memes, a participant saw, a one-way ANCOVA was performed using participants' mean score on the media use scale as the covariate. (The Levene test of homogeneity of variances was violated, $p = .008$). Results indicate the effect of media use is significant, $F(1, 625) = 21.22, p < .001, \eta_p^2 = .03$, but after controlling for media use, a significant difference still exists on positive affect, $F(5, 625) = 8.30, p < .001, \eta_p^2 = .06$. Post hoc pairwise comparisons using the Bonferroni correction to determine significant differences indicated that those in the comparison group reported significantly more positive affect than those assigned to any other condition.

Media use is not a moderator of positive affect.

Meme Use: Meme use weakly positively correlated with all three affect subscales. After controlling for meme use, a significant difference remained on positive affect, $F(5, 624) = 8.56, p < .001, \eta_p^2 = .06$. The effect of meme use itself was significant, $F(1, 624) = 5.55, p = .019, \eta_p^2 = .01$. Post hoc pairwise comparisons using the Bonferroni correction indicated that participants in the no-meme comparison group reported significantly more positive affect than those assigned to any other condition. Meme use is not a moderator of positive affect.

On aversion, the ANCOVA revealed that no statistically significant differences remained among participants based on which condition they were assigned to after controlling for meme use, $F(5, 624) = 1.91, p = .091$. (The Levene test was violated, $p = .008$). Meme use is a moderator of aversion.

4.3.2.4 Additional tests of moderating variables and affect

Though not asked about in any research questions, some additional variables of interest, specifically gender and perceived meme funniness, were also assessed as potential moderators of the outcome variables.

Gender: Gender is positively significantly correlated with positive affect. After controlling for gender in a one-way ANCOVA, a significant difference remained on positive affect, $F(5, 611) = 10.28, p < .001, \eta_p^2 = .08$. Post hoc pairwise comparisons using the Bonferroni correction indicated those in the comparison group reported significantly more positive affect even after controlling for gender.

Gender is not a moderator of positive affect.

Age: Age is not correlated with any of the affect dependent variables. ANCOVAs with age as the covariate were not performed.

Funniness: Finding memes funny is weakly positively correlated with positive affect and weakly negatively correlated with aversion. To test whether those in the no-meme comparison group still differed on positive affect from those assigned to view memes after controlling for how many memes a participant found funny, a one-way ANCOVA was performed. The results indicate that after controlling meme funniness, no significant differences remained on positive affect, $F(16, 484) = .82, p = .669$, between those who saw non-political memes and those who saw political memes. However, it should be noted there was no significant difference between them because those in the comparison group did not see any stimuli, they did not answer questions related to funniness of the stimuli and are not included in this analysis. The contribution of funniness was itself just significant, $F(4, 484) = 2.93, p = .045, \eta_p^2 = .36$. A one-way ANOVA with Tukey post hoc test indicated that those who somewhat disagreed with the statement that the message was funny had significantly lower positive affect than those who strongly agreed with the statement that the message was funny ($p = .046$).

To see whether participants who saw political memes differed from those who saw non-political memes on aversion after controlling for how many memes they thought were funny, a

one-way ANCOVA was performed. The results indicate that after controlling meme funniness, no significant differences on aversion remain between those who saw political memes and those who saw non-political memes, $F(4, 499) = 1.56, p = .184$. (The Levene test of homogeneity of variances was violated, $p = .001$). Perceived funniness is a moderator of aversion. A one-way ANOVA with Games-Howell post hoc indicated that those who strongly disagreed with the statement that the meme was funny as well as those who somewhat disagreed each significantly differed from those who neither agreed nor disagreed with that statement ($p < .05$). That is, those who did not find the meme funny experienced significantly more aversion than those who were neutral regarding whether the meme was funny. Those who did find the meme funny did not significantly differ from those who did not find the meme funny.

Regression analyses: To investigate how well these potential moderating variables predicted positive affect, including condition assignment in the model, a simple linear regression was computed. The final model significantly predicted positive affect, adjusted $R^2 = .13, F(9, 586) = 10.49, p < .001$. According to the adjusted R^2 value, the model predicts about 13% of the variance in positive affect. See Table 8.

Table 8. Linear regression summary for predictors of positive affect

Variable	B	SE B	β	t	p
Liberal Memes	-.68	.11	-.30	-6.10	.000
Conservative Memes	-.51	.12	-.19	-4.12	.000
Liberal Text	-.55	.11	-.23	-4.83	.000
Conservative Text	-.55	.11	-.24	-4.89	.000
Non-Political	-.45	.11	-.19	-3.92	.000
Political Engagement	.16	.05	.13	2.93	.003
Media Use	.18	.05	.14	3.46	.001
Gender	-.19	.06	-.12	-3.21	.001
Political Interest	.03	.03	.04	.85	.393
Constant	2.40	.20		11.96	.000

When funniness was included in the model, the adjusted R^2 value was reduced to .06, meaning only about 6% of the variance in positive affect was explained by that model, and indicating that which memes participants saw – or whether they saw none at all – was important for predicting positive affect.

Similar analysis was performed to find predictors of aversion. The final model significantly predicted aversion, adjusted $R^2 = .029$, $F(8, 480) = 2.77$, $p = .005$. The model predicts about 3% of the variance in aversion. See Table 9 for the regression summary.

Table 9. Linear regression model predicting aversion

Variable	B	SE B	β	t	p
Liberal Memes	.21	.10	.12	2.04	.042
Conservative Memes	.07	.11	.04	.64	.522
Liberal Text	.06	.10	.03	.57	.571
Non-Political	-.07	.11	-.04	-.69	.489
Meme Use	.07	.04	.09	1.93	.054
Funniness	-.07	.03	-.11	-2.41	.016
AFPH	.07	.05	-.07	1.53	.128
Political Interest	-.01	.03	-.01	-.27	.775
Constant	1.28	.21		6.23	.000

4.4 Conclusion: Memes and Affect

The picture of memes and affect is a mixed one. Overall, viewing internet memes had a dampening effect on positive affect, whether the memes were political or non-political in nature, but at the same time did not significantly increase negative affect compared to seeing no memes at all. Neither did viewing political memes one agreed with result in more positive affect, by either measure of agreement. Viewing political memes resulted in significantly more aversion compared to viewing non-political memes, but viewing visual versions of political internet memes did not result in stronger affect (positive, negative, or aversion) than viewing text-only versions of the same political memes. How many memes a participant found to be funny and meme use acted as moderators of aversion.

5 RESULTS: INTERNET MEMES' PERCEIVED PERSUASIVENESS

This chapter presents the results related to the second major dependent variable in this study, the perceived persuasiveness of internet memes. Specifically, this chapter addresses hypotheses 3a, 3b, and 4, and research questions 3b, 4b, and 5b:

- **H3a:** Viewing *visual versions* of political internet memes will result in perceiving memes to be *more persuasive* than viewing textual versions of the same memes.
- **H3b:** People who view *political* internet memes will report memes as being *more persuasive* than those who view *non-political* internet memes.
- **H4:** People who see political internet memes they *agree* with will perceive memes to be *more persuasive* than will people who disagree with the memes.
- **RQ2b:** What is the relationship between political humor affinity and perceptions of meme persuasiveness?
- **RQ3b:** What is the relationship between political engagement and perceptions of meme persuasiveness?
- **RQ4b:** What is the relationship between familiarity with popular culture and/or media use and perceptions of meme persuasiveness?

First, a discussion of the measures to be addressed in this chapter is presented. Next, specific analyses pertaining to each hypothesis and research question are provided.

5.1 Reliability Testing

5.1.1 Perceived persuasiveness reliability

Perceived persuasiveness was measured using three separate scales: message effectiveness, argument scrutiny, and message discounting. Participants answered each scale three times, once for each individual meme stimulus in their assigned condition. Participants' means for all their responses to these scales were calculated, and combined into a single column within SPSS to create mean message effectiveness, argument scrutiny, and message discounting columns. Across all the experimental conditions (except the no-meme comparison group, as participants did not answer these items), the scales achieved at least acceptable reliability of $\alpha = .70$ or above, with two of the three reaching good reliability of at least $\alpha = .80$ using Cronbach's

alpha. Table 10 presents the reliability, means, and standard deviations for the three perceived persuasiveness scales as calculated across the experimental conditions.

Table 10. Persuasiveness scale reliabilities, means, and standard deviations

Scale/Item	Cronbach's α	Mean	Std. Dev.
Message Effectiveness	.83	2.79	.76
Argument Scrutiny	.77	3.11	.61
Message Discounting	.81	3.16	.65

5.1.2 Reliability of potential moderating variables

The reliability of the other potential moderating variables – specifically affinity for political humor, subjective knowledge of pop culture, political engagement, political interest, media use, meme use, and perceived funniness of the memes – were addressed in detail in Chapter 3, section 3.2.3. All scales achieved acceptable reliability of at least $\alpha = .70$, with all but one (the meme use scale) over at least $\alpha = .80$ using Cronbach's alpha to test internal consistency.

5.2 Hypothesis Testing

5.2.1 Testing H3a: Visual vs. text-only memes and persuasiveness

Hypothesis 3a compares visual political internet memes to text-only versions of the memes, stating that viewing visual memes will result in greater perceptions of memes' persuasiveness compared to viewing text-only versions of the memes. To test this, a one-way ANOVA test was performed on each of the three perceived persuasiveness scales using a created variable to represent the combined (conservative and liberal) visual political memes versus the combined (conservative and liberal) text-only versions of the political memes to look for any differences in perceived persuasiveness based on whether participants saw visual memes or textual versions of the memes.

The results indicate that there were no significant differences between those who saw visual political memes and textual political memes on message effectiveness, $F(1, 402) = .33, p = .567$. There are also no significant differences between those who saw visual political memes and textual political memes on argument scrutiny, $F(1, 402) = .10, p = .750$ or on message discounting, $F(1, 402) = 2.67, p = .103$. Figure 13 depicts the lack of significant differences between the means based on whether visual memes or text-only memes were seen (bars represent standard error).

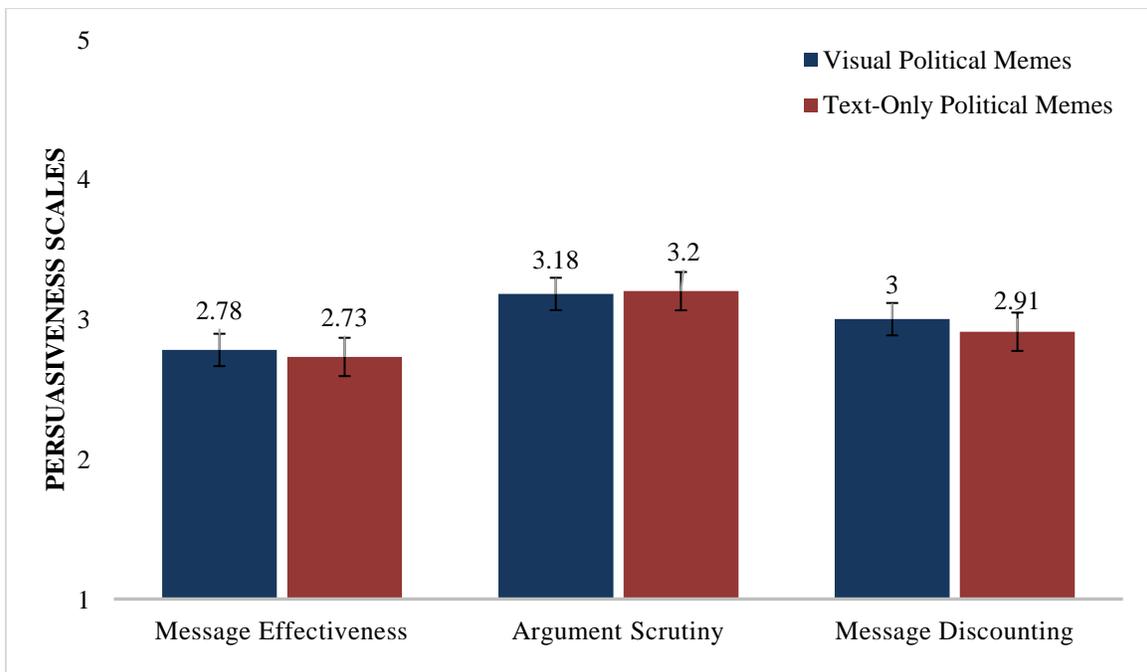


Figure 13. Means of persuasiveness by meme type.

Next, to test whether differences existed between visual political memes and textual political memes based on the memes' political ideology, a one-way ANOVA was performed on the three persuasiveness scales by condition. Figure 14 depicts the means with standard error. There were no significant differences among the four political meme conditions on message effectiveness, $F(3, 400) = 2.01, p = .112$, or message discounting, $F(3, 400) = 1.14, p = .333$. There was a significant difference on argument scrutiny, $F(3, 400) = 7.04, p < .001, \eta_p^2 = .05$.

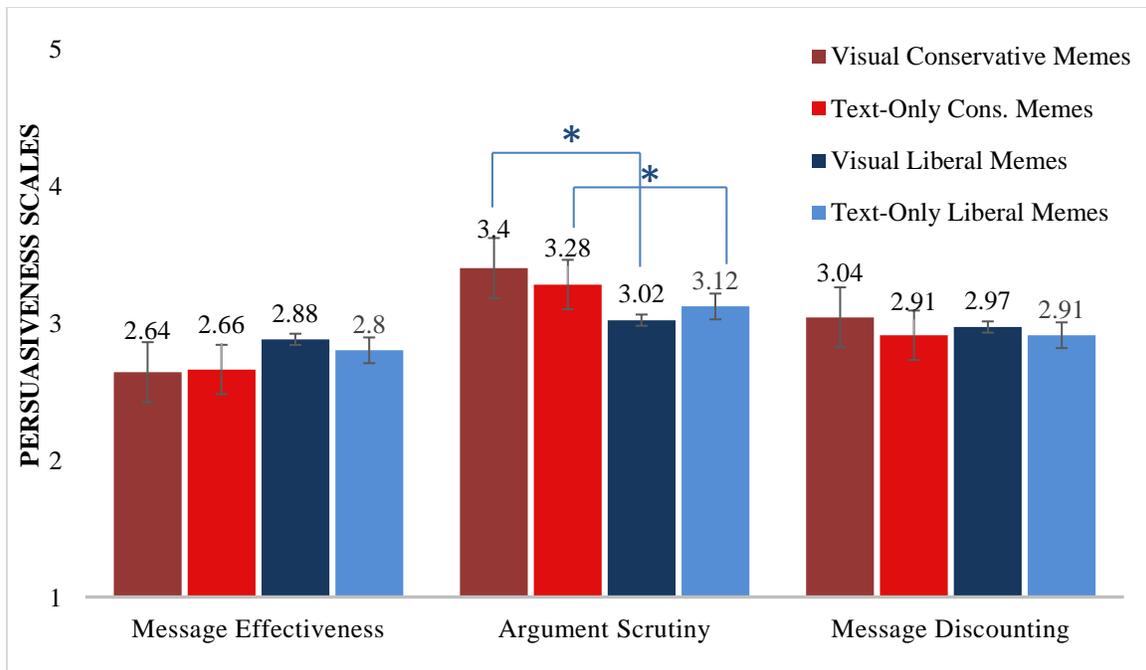


Figure 14. Means of persuasiveness by political meme.

A Tukey post hoc test indicated that this was a difference between conservative memes and liberal memes, not a difference between visual and textual versions of memes, with both conservative visual and textual memes being subjected to significantly more scrutiny than their liberal counterparts.

Based on these results, H3a is not supported. There are no significant differences between visual political internet memes and the text-only versions of those same memes regarding perceptions of message effectiveness, argument scrutiny, or message discounting. Although conservative memes were subjected to significantly more argument scrutiny than liberal memes, this applied equally to both visual versions and textual versions of the conservative memes. Therefore, those who see visual versions of political internet memes do not see the memes as more persuasive than those who saw text-only versions of the same memes.

5.2.2 Testing H3b: Political vs. non-political memes and persuasiveness

Hypothesis 3b argued that political internet memes will be viewed as more persuasive than non-political internet memes. To test this, a one-way ANOVA comparing the combined political meme conditions (visual and text) to the non-political meme condition on the three persuasiveness scales was performed. Statistically significant differences were found between political memes and non-political memes on all three persuasiveness scales.

Political memes and non-political memes were statistically different on message effectiveness, $F(1, 508) = 4.45, p = .035, \eta_p^2 = .01$, such that non-political memes were seen by participants as being more effective. A significant difference was also found between political memes and non-political memes on argument scrutiny, $F(1, 508) = 35.53, p < .001, \eta_p^2 = .07$, such that the quality of political memes' arguments was scrutinized more than non-political memes. Finally, a significant difference was found between political memes and non-political memes on message discounting, $F(1, 508) = 308.74, p < .001, \eta_p^2 = .38$, such that non-political memes were subjected to more discounting (see Figure 15 next page).

H3b is only partially supported. Political memes were subjected to less message discounting, that is, they were taken more seriously as attempts to be more than simple jokes than were non-political memes. However, political internet memes were also seen as less effective as messages and were subjected to more argument quality scrutiny than were non-political internet memes.

5.2.3 Testing H4: Agreement with the meme and persuasiveness

Hypothesis 4 stated that people who see political internet memes they agree with will report the memes as being more persuasive than those who disagreed with the memes they saw. To address this hypothesis, two-way ANOVAs on each of the three persuasiveness scales using

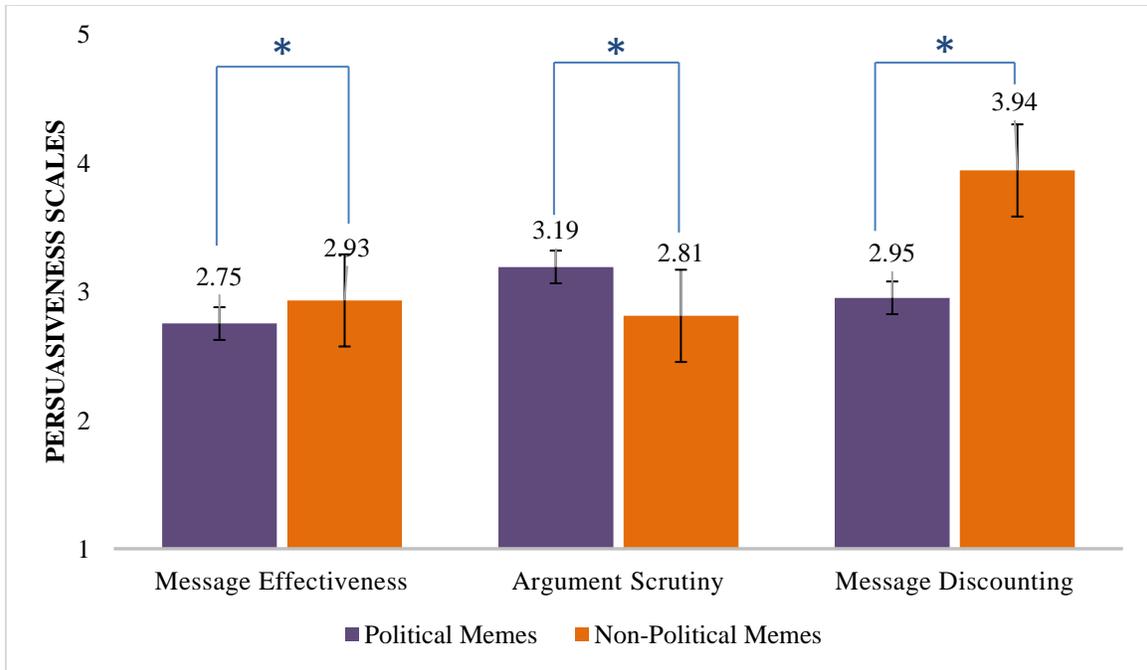


Figure 15. Means of persuasiveness by meme type.

political meme condition assignment and participant political ideology (liberal, conservative, moderate) as factors were performed, followed by the same tests but instead using agreement as the second factor. Finally, analysis of covariance tests were performed to assess whether political ideology and agreement functioned as covariates on the persuasiveness items.

To test whether participants whose own political ideology matched the political stance of the political memes they were assigned to view reported the memes as being more effective as messages (message effectiveness) than those whose self-identification did not match the condition, a two-way ANOVA was performed. There was a significant interaction between the effects of political meme condition assignment and political self-identification on perceptions of message effectiveness, $F(6, 359) = 17.19, p < .001, \eta_p^2 = .22$.

Tukey post-hoc tests revealed that, of those assigned to view political internet memes, self-identification as being politically moderate was not associated with differences in perceptions of message effectiveness. In contrast, there were significant differences in

participants' perceptions of message effectiveness depending on whether their stated personal political ideology matched that of the experimental condition to which they were assigned. Those whose own political ideology matched that of the condition to which they were assigned (conservative or liberal) rated the memes they saw as being significantly more effective than did those whose political ideology was opposite that of the condition to which they were assigned (see Figure 16). This was true of both those assigned to view visual memes and those assigned to view text-only versions of memes ($p < .001$).

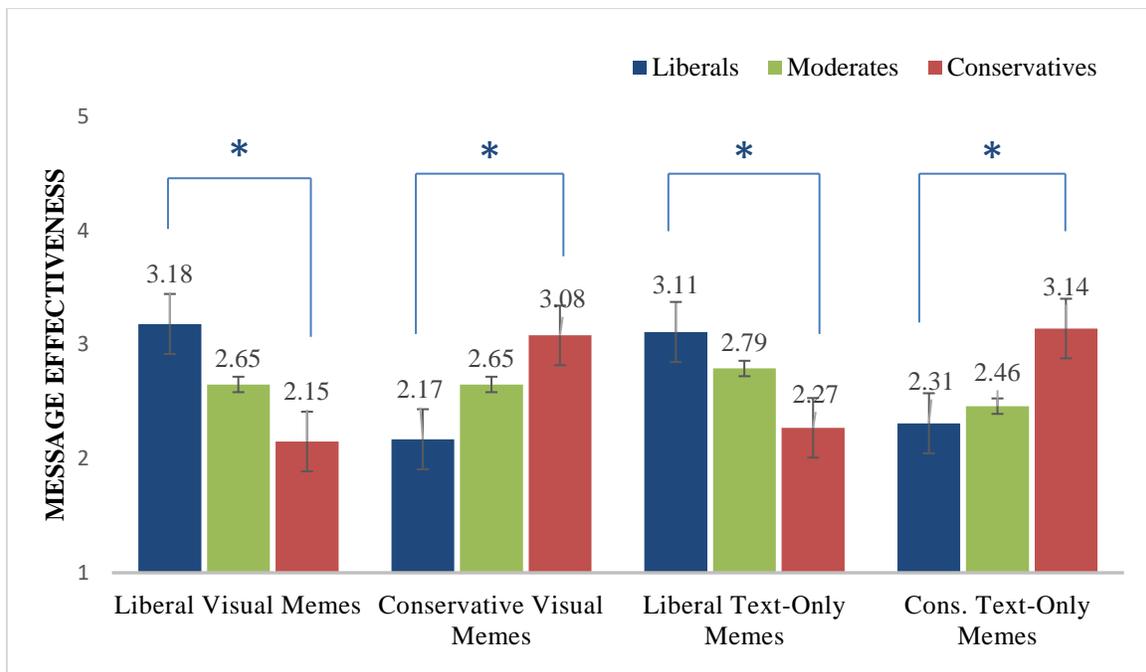


Figure 16. Mean message effectiveness by condition.

Next, to test whether participants whose political ideology differed from the political stance of the memes they were assigned to view reported engaging in more argument quality scrutiny, a two-way factorial ANOVA was performed. There was a significant interaction between the effects of political meme condition assignment and political ideology on argument scrutiny, $F(6, 359) = 17.56, p < .001, \eta_p^2 = .23$.

Tukey post-hoc tests revealed that, as with the message effectiveness results, participants who identified as politically moderate did not significantly differ on argument scrutiny. However, those whose political ideology was *opposite* that of their assigned political meme condition (conservative or liberal) reported engaging in significantly *more* argument scrutiny compared to those in the same condition whose political ideology matched that of the experimental condition (see Figure 17). This was true of both those assigned to view visual memes and those assigned to view text-only versions of memes ($p \leq .001$).

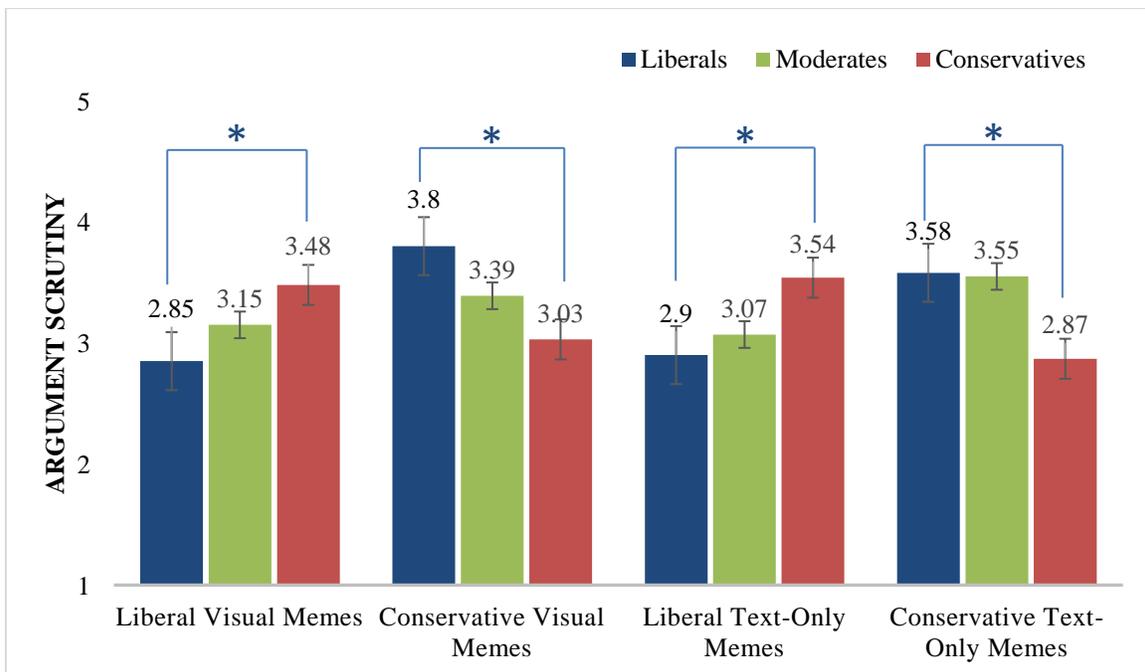


Figure 17. Argument quality scrutiny means by political ideology and condition.

Finally, to test whether there were differences in message discounting between those whose political ideology matched that of their assigned condition and those whose ideology differed, a two-way ANOVA was performed. The interaction between political meme condition assignment and political ideology was not significant, $F(6, 359) = 1.01, p = .421$. The main effects were also not significant for political meme condition, $F(3, 359) = 1.58, p = .194$, or political ideology, $F(2, 359) = .12, p = .892$, indicating that message discounting was not

different among those who saw political internet memes with a political stance congruent to the participants' own political ideology, compared to those who did not.

Stated agreement: Participants were also asked whether they agreed with the idea presented in each meme they saw. To find out whether there were differences in perceptions of message effectiveness, argument quality scrutiny, or message discounting of political memes based on stated agreement or disagreement with the memes, first a two-way ANOVA was performed using political meme condition and the agreement variable created by randomly selecting one out of three responses to the agreement item for each participant as the factors for each persuasiveness scale as the dependent variable.

On message effectiveness, the main effect of total agreement with the memes yielded an F ratio of $F(4, 383) = 28.97, p < .001, \eta_p^2 = .23$. The main effect of political meme condition assignment was not significant, $F(3, 383) = .60, p = .617$, and the interaction effect of condition and agreement was also not significant, $F(12, 383) = 1.17, p = .304$. Post hoc examination of the main effect of agreement using the Tukey test indicated that message effectiveness ratings were significantly *greater* for those who *agreed* with the memes they saw than for those who disagreed ($p < .05$). That is, those who strongly agreed with a meme had significantly higher message effectiveness means than all others. Likewise, those who said they somewhat agreed with the meme had significantly higher message effectiveness means than those who said they were neutral, somewhat disagreed, or strongly disagreed with the memes, but were significantly lower than those who strongly agreed ($p < .05$).

Figure 18 shows the estimated marginal means for message effectiveness based on stated meme agreement for those in the political meme conditions with statistically significant differences noted with an asterisk. The only two non-significant differences in the main effect of

agreement were between those who strongly disagreed with the meme and those who somewhat disagreed with the meme, and between those who somewhat disagreed with the meme and those who were neutral (did not agree or disagree).

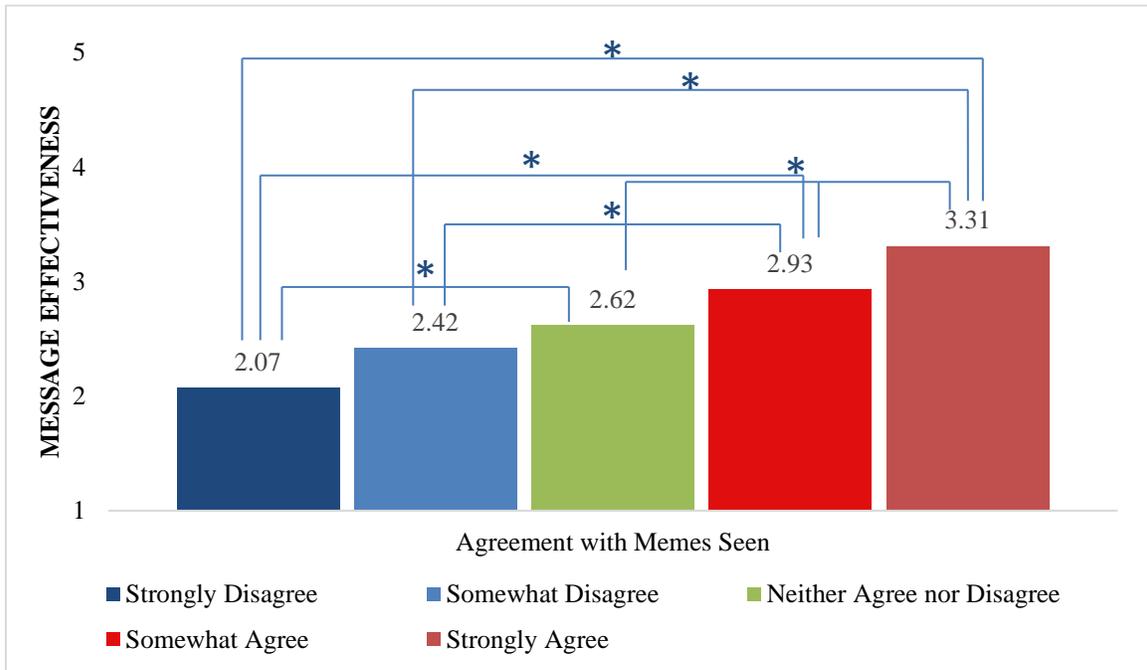


Figure 18. Message effectiveness of political memes based on stated meme agreement.

On argument scrutiny, the main effects of total agreement and political meme condition were both significant, but the interaction between them was not, $F(12, 383) = 1.16, p = .313$. Tukey post hoc tests revealed the main effect of meme agreement, $F(4, 383) = 26.66, p < .001, \eta_p^2 = .22$, was such that the mean argument scrutiny rating was significantly *greater* for those who *strongly disagreed* with the memes than for those who were neutral or agreed with the memes ($p < .05$). Those who strongly agreed with the memes had significantly lower argument scrutiny means than all others who viewed political memes. The only non-significant difference was between those who strongly disagreed and those who somewhat disagreed with the memes (see Figure 19 for a depiction of the argument scrutiny means based on meme agreement).

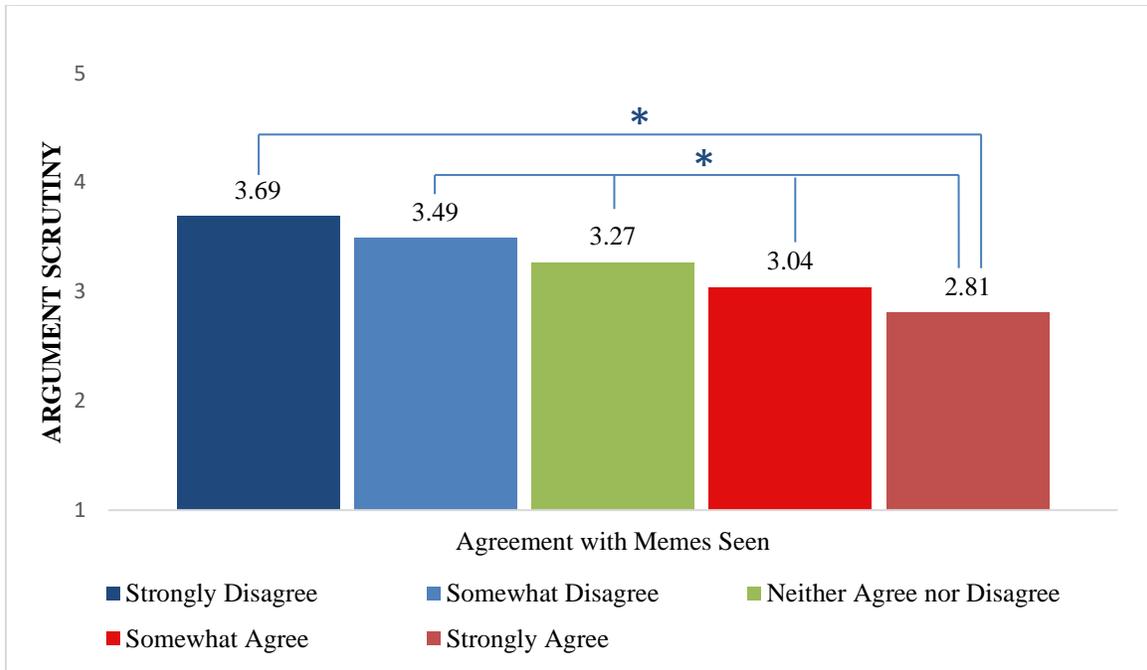


Figure 19. Argument scrutiny of political memes based on stated meme agreement.

The significant main effect of political meme condition, $F(3, 383) = 4.50, p = .004, \eta_p^2 = .03$, was such that both conservative meme conditions had significantly higher argument scrutiny means than the liberal visual meme condition. However, as previously noted, the interaction between condition and agreement was not significant.

On message discounting, both the interaction, $F(12, 383) = 1.87, p = .036, \eta_p^2 = .06$, and the main effect of agreement, $F(4, 383) = 3.55, p = .007, \eta_p^2 = .04$, were significant. The main effect of political meme condition was not, $F(3, 383) = 1.26, p = .287$. Tukey post hoc tests indicated that the main effect of agreement on message discounting was such that those who somewhat disagreed with the political memes had significantly lower message discounting means than those who neither agreed nor disagreed with the memes ($p = .034$), but this was the only significant difference identified by the post hoc test. An examination of the interaction effect using the Tukey post hoc test revealed a significant difference on message discounting

between those who saw liberal visual memes and somewhat disagreed with the memes, and those who saw conservative visual memes and neither agreed nor disagreed with the memes ($p = .041$).

The observed pattern, in which agreement with memes resulted in higher message effectiveness and lower argument scrutiny scores, also played out at the individual meme level. One-way ANOVAs on each of the 12 political memes (including both the visual and text-only versions) using stated agreement or disagreement with that meme as the factor revealed significant differences on both message effectiveness and on argument quality scrutiny for all 12 political memes ($p < .01$). Post hoc tests indicated these differences followed the previously observed pattern, where agreement resulted in higher message effectiveness and lower argument scrutiny. See Appendix D for tables summarizing these differences.

Agreement and political ideology: Next, a two-way ANCOVA was used to assess whether those who agreed with the political memes they saw differed on perceptions of message effectiveness after controlling for their political ideology. Political meme condition and meme agreement were used as the factors. There were no significant differences on message effectiveness, $F(12, 349) = .90, p = .547$, or argument scrutiny, $F(12, 349) = 1.03, p = .420$, among participants in the political meme conditions based on meme agreement after controlling for political ideology.

Based on these results, H4 is supported. Those who agreed with the memes they saw (based on either matching political ideology or stated agreement) viewed the memes as being more effective as messages and engaged in less argument quality scrutiny of the memes' messages. As such, agreeing with a meme was associated with perceiving it as more persuasive. In certain conditions, somewhat disagreeing with the memes also resulted in lower message discounting than simply being neutral regarding agreement with the meme, suggesting that those

individuals who disagreed understood the memes to be more than simple jokes more than those who neither agreed nor disagreed.

5.3 Research Question Testing

Research questions 4b, 5b, and 6b asked about the relationship between potential moderating variables – such as affinity for political humor, political engagement, and media use – and perceived persuasiveness of internet memes. First, Pearson correlation coefficients were calculated between these potential moderators and some demographic variables and the persuasiveness dependent variables (see Table 11). Next, analysis of covariance tests among these different variables were performed, followed by multiple regression analysis to see how the variables work together to explain persuasive responses.

Table 11. Correlations between persuasiveness variables and moderating variables

	Message Effectiveness	Argument Scrutiny	Message Discounting
AFPH	.23**	-.11*	.01
Political Engagement	.06	-.03	.02
Political Interest	.02	.02	-.05
Pop Culture Knowledge	.04	-.06	-.01
Media Use	.14**	-.08	-.09*
Meme Use	.15**	-.14*	-.03
Gender	.02	-.05	-.04
Age	-.04	.04	.00
Funniness	.45**	-.44**	.24**

* $p < .05$ ** $p < .01$

5.3.1 RQ2b: Affinity for Political Humor and Persuasiveness

Affinity for political humor is positively correlated with message effectiveness and weakly negatively correlated with argument scrutiny. Based on the above correlations, one-way ANCOVAs were performed to look for differences on message effectiveness and on argument scrutiny among participants based on which memes they saw (political or non-political), controlling for their affinity for political humor.

Results indicate that after controlling for affinity for political humor, participants who saw political memes and those who saw nonpolitical memes did not have significant differences on message effectiveness, $F(1, 507) = 3.83, p = .051$. The main effect of affinity for political humor was significant, $F(1, 507) = 26.66, p < .001, \eta_p^2 = .05$. (The Levene test of homogeneity of variances was violated, $p = .000$.) Affinity for political humor acts as a moderator of message effectiveness.

Significant differences remain on argument scrutiny between those who saw political memes and those who saw non-political memes after controlling for participants' affinity for political humor, $F(1, 507) = 34.70, p < .001, \eta_p^2 = .06$. The main effect of affinity for political humor was significant, $F(1, 507) = 5.51, p = .019, \eta_p^2 = .01$. (The assumption of homogeneity of variances was violated, $p < .001$). Affinity for political humor is not a moderator for argument scrutiny.

When comparing participants assigned only to the four political meme conditions, significant differences remained on argument scrutiny, $F(3, 399) = 7.24, p < .001, \eta_p^2 = .05$, though that test failed the assumption of homogeneity of regression slopes. Post hoc pairwise comparisons with the Bonferroni correction indicated this was a difference between liberal political memes and conservative political memes, as demonstrated in previous analyses.

5.3.2 RQ3b: Political engagement and persuasiveness

Research question 4b asked about the relationship between political engagement and perceptions of memes' persuasiveness. No significant correlations were found between political engagement and political interest and the persuasiveness dependent variables. Based on these results, it is concluded that neither political engagement nor political interest act as moderators on the three persuasiveness dependent variables.

5.3.3 RQ4b: Pop culture, media use, and persuasiveness

Research question 5b asked about the relationship between participants' knowledge of pop culture and media use and their perceptions of memes' persuasiveness.

Subjective knowledge of pop culture: Subjective knowledge of pop culture was not significantly correlated with any of the three persuasiveness scales, therefore it is not a moderator of the dependent variables. ANCOVAs were not performed.

Media Use: Media use was weakly positively correlated with message effectiveness and weakly negatively correlated with message discounting. An ANCOVA showed there were significant differences on message effectiveness between those who saw non-political memes and those who saw political memes after controlling for media use, $F(1, 507) = 6.22, p = .013, \eta_p^2 = .01$. Post hoc pairwise comparisons with the Bonferroni correction indicated the difference was such non-political memes were still seen as more effective after controlling for media use. (The assumption of homogeneity of variances was violated, $p < .001$). Media use is not a moderator of message effectiveness.

Media use is not a moderator of argument scrutiny, because there is no significant correlation between them.

An ANCOVA showed significant differences on message discounting remain between those who saw non-political memes and those who saw political memes after controlling for media use, $F(1, 507) = 301.93, p < .001, \eta_p^2 = .37$. Post hoc pairwise comparisons indicated that non-political memes were still discounted more than political memes. Media use is not a moderator of message discounting.

Meme Use: Meme use was correlated with message effectiveness and argument scrutiny. Those who saw non-political memes still had significantly higher message effectiveness scores

than those who saw political memes after controlling for meme use, $F(1, 506) = 5.31, p = .022, \eta_p^2 = .01$. (Levene test for assumption of homogeneity of variances violated, $p < .001$.) Likewise, a significant difference remains on argument scrutiny after controlling for meme use, $F(1, 506) = 38.24, p < .001, \eta_p^2 = .07$. (Levene test for assumption of homogeneity of variances violated, $p < .001$.) Meme use is not a moderator of message effectiveness or argument scrutiny.

5.3.4 Additional tests of moderating variables

Gender and Age: There were no significant correlations between gender or age and any of the persuasiveness dependent variables. ANCOVAs were not performed.

Funniness: Participants were also asked whether they thought each meme they saw was funny. Funniness was significantly correlated with all three persuasiveness dependent variables. A two-way ANOVA was performed on message effectiveness and argument scrutiny because the assumption of homogeneity of regression slopes necessary for ANCOVA tests was violated for these two tests.

No significant interaction was revealed between meme funniness and which genre (political or non-political) of memes participants viewed on message effectiveness, $F(4, 499) = 1.95, p = .100$, though the main effect of funniness was significant, $F(4, 499) = 7.05, p < .001, \eta_p^2 = .05$. A Tukey post hoc test demonstrated that those who did not find the memes funny significantly had the lowest message effectiveness scores compared to those who were neutral or who found the memes to be funny ($p < .05$). The only difference that was not statistically significant on message effectiveness was that between those who strongly agreed that the meme was funny and those who somewhat agreed that the meme was funny. This suggests that finding political memes funny acts as a moderator of message effectiveness by increasing perceptions of message effectiveness compared to not finding memes funny.

There was no significant interaction on argument scrutiny between political and non-political memes and meme funniness, $F(16, 484) = .272, p = .896$. The two main effects of political or non-political meme condition and number of memes found to be funny were both significant, $p \leq .001$. Political memes were still subjected to more argument scrutiny than non-political memes, though post hoc Tukey tests indicated that agreeing the meme was funny was associated with significantly lower argument scrutiny compared to those who did not agree that the meme was funny ($p < .05$). The only non-significant difference was between those who were neutral on the meme's funniness and those who found it somewhat funny ($p = .354$).

After controlling for funniness, non-political memes were still significantly more discounted as messages than were political memes, $F(1, 506) = 275.26, p < .001$. Funniness did not moderate message discounting.

To see if there were significant differences on message effectiveness based on which *political* memes participants saw and how many of the memes they saw they thought were funny, a two-way ANOVA was performed on message effectiveness. The interaction effect between condition and meme funniness was not significant, $F(12, 383) = .71, p = .739$. Neither was the main effect of political internet meme condition, $F(3, 383) = 1.05, p = .371$. The main effect of funniness on message effectiveness was significant, $F(4, 383) = 23.78, p < .001, \eta_p^2 = .20$, with post hoc tests revealing the same pattern described previously, with those who found the memes funny having significantly higher message effectiveness scores than those who did not. However, funniness did not moderate differences between political memes.

To test for differences among participants in the political internet meme conditions on argument quality scrutiny based on how many memes they found funny, a two-way ANOVA was again performed. Here, the main effects of political meme condition, $F(3, 383) = 5.80, p =$

.001, and funniness, $F(4, 383) = 15.60, p < .001$, were both significant. However, the interaction effect, $F(12, 383) = 1.05, p = .398$, was not. Tukey post hoc tests indicated that the effect of political meme condition was such that liberal memes (visual or text) were significantly scrutinized less than both visual and text-only conservative memes. Overall, those in the conservative meme conditions engaged in greater argument scrutiny than did their counterparts in the liberal meme conditions. Those who strongly disagreed that the meme was funny had significantly higher argument scrutiny means than those who were neutral, somewhat agreed, or strongly agreed that the meme was funny. Overall, thinking a political meme was funny resulted in less argument scrutiny.

To test for differences in message discounting among participants in the political meme conditions based on how many memes they found funny, a two-way ANOVA was performed. The interaction effect between political meme condition and funniness was not significant, $F(12, 383) = 1.20, p = .284$. The main effects of political internet meme condition, $F(3, 383) = 1.73, p = .159$, and funniness, $F(4, 383) = 1.88, p = .114$, were each not significant. These results indicate funniness did not moderate message discounting among those in the political meme conditions.

Finally, to see whether those who thought an individual political meme was funny significantly differed from those who did not on perceptions of meme persuasiveness, one-way ANOVAs were performed. Akin to the pattern seen with stated agreement with the meme, for each political meme in the study, participants who thought that meme was funny rated that meme significantly higher for message effectiveness and reported significantly lower argument quality scrutiny than those who did not think that meme was funny. This was true of both the visual versions of the memes and the corresponding text-only versions. See Appendix D for the F

ratios, significance, means, and standard deviations for each of the 12 political memes on each of the three persuasiveness measures. Because there were only two categories to compare, the *p*-value indicates significant differences between the two groups.

Regression analyses: To investigate how well these variables predicted message effectiveness, a linear regression was performed. The final model significantly predicted about 32% of the variance in message effectiveness, $F(11, 467) = 21.77, p < .001, R^2 = .32$. See Table 12 for the summary.

Table 12. Linear regression of variables predicting message effectiveness.

Variable	B	SE B	β	t	p
(Constant)	.790	.213		3.70	.000
Liberal Memes	-.051	.089	-.028	-.57	.570
Conservative Memes	-.128	.099	-.061	-1.29	.197
Liberal Text	-.055	.092	-.029	-.60	.552
Conservative Text	-.101	.091	-.055	-1.11	.269
Agree	.225	.027	.367	8.32	.000
Funny	.138	.028	.225	4.96	.000
Political Interest	-.037	.026	-.057	-1.40	.163
AFPH	.160	.042	.154	3.79	.000
Meme Use	.047	.033	.058	1.41	.160
Media Use	.075	.046	.067	1.61	.107
Gender	.088	.049	.068	1.79	.075

Agreement, funniness, political interest, and affinity for political humor all significantly contribute to the model. While media use, meme use, and gender do not significantly contribute, their inclusion improved the variance in message effectiveness predicted by the model. A model was also created for argument scrutiny that explained 34% of the variance in argument scrutiny, $F(10, 468) = 25.97, p < .001, R^2 = .34$. See Table 13 for the summary.

Table 13. Linear regression of variables predicting argument scrutiny

Variable	B	SE B	β	t	p
(Constant)	4.163	.166		25.020	.000
Liberal Memes	.206	.071	.139	2.901	.004
Conservative Memes	.451	.079	.263	5.708	.000
Liberal Text	.225	.073	.148	3.087	.002
Conservative Text	.332	.073	.221	4.557	.000
Agree	-.181	.022	-.364	-8.398	.000
Funny	-.094	.022	-.189	-4.228	.000
Political Interest	.026	.021	.049	1.251	.212
AFPH	-.032	.033	-.038	-.949	.343
Meme Use	-.076	.025	-.116	-3.029	.003
Gender	-.100	.039	-.096	-2.566	.011

Lastly, a model to predict message discounting was also created. The same model as for argument scrutiny appeared to be the best predictor of message discounting as well, significantly predicting 38% of the variance in message discounting, $F(10, 468) = 30.43, p < .001, R^2 = .38$. See Table 14 for the summary.

Table 14. Linear regression summary for model predicting message discounting

Variable	B	SE B	β	t	p
(Constant)	3.970	.169		23.55	.000
Liberal Meme	-.915	.072	-.591	-12.71	.000
Conservative Meme	-.803	.080	-.449	-10.03	.000
Liberal Text	-.976	.074	-.613	-13.20	.000
Conservative Text	-.956	.074	-.609	-12.95	.000
Agree	-.025	.022	-.049	-1.16	.248
Funny	.068	.022	.131	3.03	.003
Political Interest	-.001	.021	-.002	-.04	.966
AFPH	-.033	.034	-.037	-.96	.337
Meme Use	-.004	.025	-.006	-.14	.876
Gender	-.063	.040	-.058	-1.60	.111

5.4 Conclusion: Memes and Persuasiveness

Political memes were seen as less persuasive than non-political memes, being subjected to more argument scrutiny and considered less effective as messages than non-political memes. On the other hand, non-political memes were discounted as messages significantly more than political memes were. As with affect, visual political memes were not seen as more persuasive than text-only versions of the same memes.

Agreement with a meme – stated agreement with memes or matching political ideology to political memes – is an important factor in perceptions of memes’ persuasiveness, resulting in greater perceived message effectiveness and less argument quality scrutiny, regardless of which specific types of memes or individual memes were viewed. Finding the memes to be funny contributed to higher message effectiveness ratings and lower argument scrutiny scores, although it was also associated with higher message discounting scores. Affinity for political humor also moderated message effectiveness.

6 DISCUSSION

This chapter discusses the practical and theoretical implications of the results presented in the previous chapters, as well as some suggestions for future research building upon this study. Limitations of this study are discussed in Chapter 7. As noted previously, the present study responds to the call by Shifman (2014) for research regarding what constitutes an effect of political internet memes. While that statement could have been interpreted as a call for understanding memes' effects on a societal level, this study approached meme effects as media effects, as by studying media effects scholars can begin to understand implications for societal effects. The present study examined effects of internet memes along two dimensions, both of which have implications for future action or behavior in political contexts: affect and viewers' perceptions of memes' persuasiveness. Specifically, this study looked for evidence of motivated reasoning in participants' responses to the visual arguments contained in the memes they saw, as well as for differences in affect based on which kinds of memes participants saw. Additionally, the present study compared complete, visual memes to pared-down, text-only versions of the same political memes to determine if the visual component had an impact on meme's effects. It also compared political internet memes to non-political memes to identify if political content influenced the effects of memes.

Overall, the results indicate that political internet memes are a unique genre of meme, with effects differing from non-political memes and in many ways similar to other forms of political humor. Political internet memes were in general seen as being less persuasive than non-political internet memes, subjected to more argument scrutiny and rated as less effective as messages. However, non-political memes were discounted as messages more than political

memes – that is, participants understood political memes as being attempts to communicate ideas or arguments beyond simple jokes more so than non-political memes. This mixed result is evidence that political internet memes are understood as *attempts* to be persuasive, even if they are not perceived as being *actually* persuasive.

There were no significant differences between text-only political memes and the complete, visual versions of political memes on either the affect or persuasiveness outcome variables, suggesting political memes' visuals are less important to their effects than previously thought. Regardless of visual level, the study's results indicate that participants engage in motivated reasoning to make sense of political memes' arguments. Those who agreed with political memes – that is, if their own political ideology matched that of the memes they saw, or if they stated they agreed with the idea contained in the memes – rated the memes as being more effective and engaged in less argument scrutiny than those who did not agree with the memes.

Perceived funniness of these memes acted as a moderator of message effectiveness and argument scrutiny, increasing perceptions of message effectiveness, and lowering argument scrutiny. However, funniness did not eliminate the differences between political memes and non-political memes. Affinity for political humor moderated the difference in message effectiveness between political internet memes and non-political memes.

In this study, viewing any kind of meme, political or non-political, significantly reduced positive affect compared to not viewing any memes. Additionally, political internet memes increased feelings of aversion compared to viewing non-political internet memes. This difference in positive affect is slightly moderated by perceptions of meme funniness. The difference in aversion between political memes and non-political memes is moderated by perceived meme funniness and by how often people look at, create, or share internet memes (meme use).

Therefore, humor and people's familiarity or comfort with memes as a genre of media are important moderators of political memes' effects.

In the chapter that follows, summaries of the hypotheses and literature-based research questions are presented first. Following those summaries, discussion of these findings in terms of contribution to theory and practice are presented.

6.1 Summary of the Hypotheses

H1 stated that visual political memes would result in stronger affect than text-only versions of political memes. This research found that viewing visual versions of political internet memes did not result in significant differences in positive affect, negative affect, or aversion as compared to viewing text-only versions of the same political internet memes. This was the case regardless of whether the memes were liberal or conservative in their stance. H1 was not supported.

H2 stated that those who agreed with political memes would report greater positive affect than those who disagreed. Whether agreement with the meme was operationalized as having a political ideology that matched the participants' assigned political meme condition, or was measured as having indicated agreement with the idea contained one of the political memes the participant saw, there was no significant difference on positive affect between those who agreed with the memes they saw and those who did not. Therefore, viewing political internet memes with which one agrees does not result in experiencing more positive affect. H2 was not supported.

H3a stated that viewing visual versions of political memes would result in them being viewed as more persuasive than non-political memes. Viewing visual versions of the political internet memes did not result in viewing the memes as being more persuasive than text-only

versions, as evidenced by the lack of significant differences between visual memes and textual memes on their message effectiveness, argument scrutiny, or message discounting ratings. H3a was also not supported.

H3b posited that political memes would be more persuasive than non-political memes, but it was only partially supported. Political internet memes were rated as significantly less effective as messages than non-political memes and were subjected to significantly more argument scrutiny. However, non-political memes were significantly more discounted as messages than were non-political memes. That is, although participants saw non-political memes as more effective, they were not seen as presenting persuasive, relevant messages. This suggests that political memes were understood as attempts to communicate an idea other than a mere joke. Perhaps because of this, political messages were in turn subjected to greater scrutiny of their arguments and critique of their effectiveness in conveying their message. H3b is only partially supported.

H4, which stated that those who agreed with a political meme would find it more persuasive than those who disagreed, was supported. Participants whose saw memes that matched their own political ideology rated those memes as significantly more effective. They also engaged in significantly less argument scrutiny than those who saw memes they did not agree with. Likewise, agreeing with a political meme was associated with higher ratings of its effectiveness and significantly lower argument scrutiny than those who did not agree with that meme. The more memes participants agreed with, the higher the message effectiveness ratings; they also had lower argument scrutiny than those who did not agree.

6.2 Summary of the Research Questions

RQ1 asked “Does the relationship between viewing political internet memes and affect differ from the relationship between viewing non-political internet memes and affect?” In the present study, seeing any kind of meme, political or non-political, resulted in significantly lower positive affect than not viewing any meme at all. Meanwhile, those who saw political internet memes experienced significantly more aversion than those who saw non-political internet memes. Therefore, although seeing either political memes or non-political memes reduces positive affect, where the two types of memes differ is in eliciting feelings of aversion. Viewing political internet memes results in experiencing more feelings of aversion than does viewing non-political memes. Although these results could seem to contradict previous research that indicated positive affect was a key aspect of memes’ spread (Guadagno et al., 2013; Miltner, 2011), in fact, these results speak to the distinct nature of political internet memes as compared to other types of memes. The previous studies were not focused on political memes, but rather on “cute” or simply funny memes.

Additionally, political internet memes are perceived as being less persuasive than non-political memes. This is a curious finding. Political internet memes overall were rated as less effective as messages and subjected to more argument scrutiny than were the non-political memes. However, political memes also received lower message discounting scores than non-political memes, suggesting they were taken more seriously as a message form than were non-political memes, and at least in that sense were recognized as a serious attempt to be persuasive.

Relationships among the potential moderating variables and affect and perceived persuasiveness were also explored. Examination of RQ2a found that there is a positive relationship between participants’ affinity for political humor and positive affect, but did not

moderate differences in positive affect between those who saw memes and those who saw no memes. Examining RQ2b shows that affinity for political humor does moderate differences between political memes and non-political memes on message effectiveness, but not argument scrutiny. Therefore, affinity for political humor acts as a moderator perceptions of memes effectiveness as a message vehicle or political media genre, but does not moderate scrutiny of specific memes' arguments.

Participants were also asked to indicate whether they thought each meme they saw was funny. In the present study affinity for political humor and thinking at least one meme was funny are weakly positively correlated, $r(509) = .14, p < .001$, suggesting that these two concepts are related, but not enough to suggest that someone with a high affinity for political humor thinks every meme is funny. Indeed, in looking at the correlation between specific political internet memes' funniness, AFPH and funniness were correlated only on the liberal internet memes; this could suggest that the conservative memes were not viewed as being as funny overall.

Perceived funniness of memes generally increased positive affect and reduced aversion, and moderated the difference in aversion between non-political memes and political memes. While there were no significant interactions between condition assignment and meme funniness, overall, thinking the political memes seen were funny resulted in increased message effectiveness ratings and lowered argument scrutiny scores compared to those who did not find the memes funny.

Funniness did not appear to moderate differences in message discounting between conditions. However, those in this study who thought the memes were funny had significantly higher message discounting scores than those who did not think the memes were funny ($p < .05$). This may be due to the fact this scale included statements such as "this message is only a joke."

Those who found the meme funny likely saw the joke where perhaps others didn't, and focused on that in their responses. The results regarding the message discounting scale presented in this study indicate this scale could be problematic for use in future political media research in the current media landscape, because it essentially conflates jokes with less legitimacy as a message form. However, as the growing field of scholarship assessing political humor and satire attests, such jokes have serious influence on viewers, and are often the wrapping around a serious message. Young, Holbert and Jamieson (2013) outline the ways political parody and satire may rely on what they dub ironic authenticity as part of their influence, through which such "jokes" are also best understood as attempts to communicate a point of view on a serious topic. They state this use of ironic authenticity appeals to young people, who, immersed in media from infancy, have a certain level of skepticism about media. The results of the present study indicate that research in this area that tries to bifurcate "funny" and "serious," as the message discounting scale does, will likely fail to understand the true nature and effects of modern political media.

RQ3a and 3b asked about the relationship between political engagement and affect and persuasiveness. Political engagement did not moderate affect or persuasiveness, and neither did political ideology. Significant differences based on political ideology were only significant in the context of matching to meme ideology. That is, neither conservatives nor liberals were more likely than the other to see memes in general as persuasive. Perceptions of persuasiveness, therefore, were a result of the specific memes seen and whether participant ideology matched the political meme condition. This emphasizes the importance of individuals' biases in decoding the visual arguments of specific memes' messages.

There is a positive relationship between participants' media use and positive affect (RQ4a), but no significant relationship with negative affect or aversion, and media use does not

moderate positive affect. In contrast to media use, participants' frequency of meme use is significantly related to all three affective subscales. While meme use does not moderate positive affect, it does moderate aversion. This suggests that familiarity or comfort with memes as a genre reduced feelings of aversion generated by political memes. RQ4b asked about the relationship between media use, meme use, and perceived persuasiveness. Neither media use nor meme use moderated differences in perceived persuasiveness between political memes and nonpolitical memes, suggesting the observed responses were a reaction to the memes, and not the result of personal characteristics

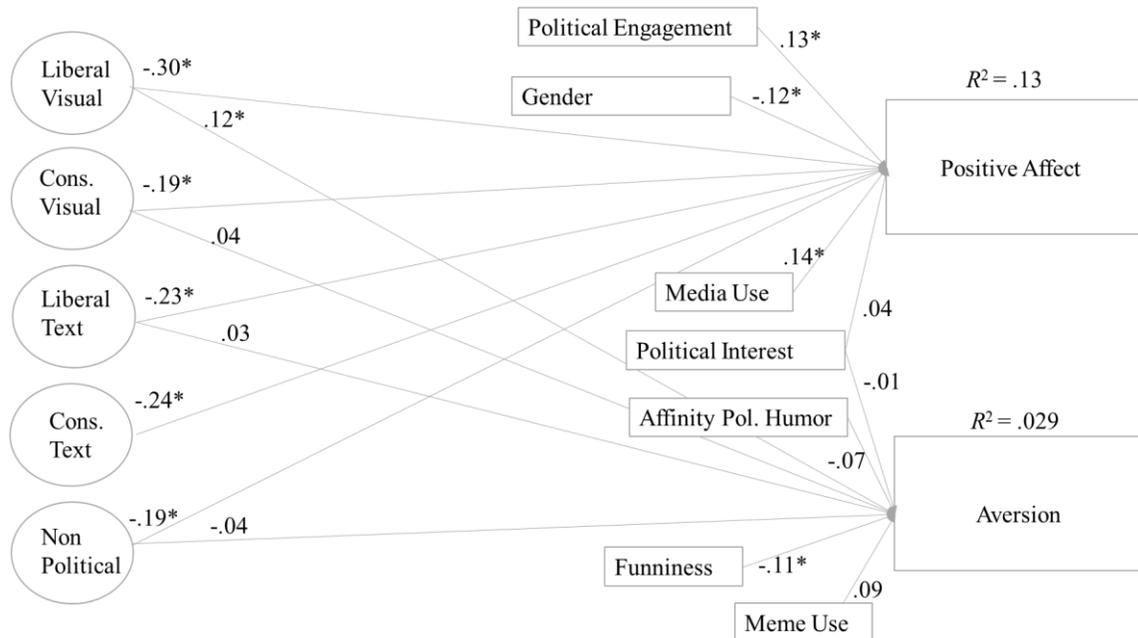
Subjective knowledge of popular culture was also examined, but was not statistically correlated with any of the affect or persuasiveness scales in this study. Therefore, although knowledge of pop culture could be helpful to viewers in decoding the nuances of memes' visual arguments by giving them more resources to draw on in making connections, it appears that in this study such knowledge was not directly related to the effect of memes. However, future research should continue to explore this concept. In addition, this scale was adapted from previous research to use the phrase "pop culture." The fact the scale achieved high reliability ($\alpha = .91$) in the present study indicates that it could be a useful tool to measure how much participants feel they know about popular culture in future research. Table 15 summarizes which variables acted as moderators of differences in the outcome variables based on condition assignment, that is, which memes participants saw, political or non-political.

Table 15. Summary of moderating variables in the present study.

Outcome Variable	Positive Affect	Negative Affect	Aversion	Message Effective.	Argument Scrutiny	Message Discount.
Moderators	Funniness		Meme Use Funniness	AFPH (Funniness)	(Funniness)	

(Funniness) did not moderate differences between conditions, but did have a main effect on the outcome variable.

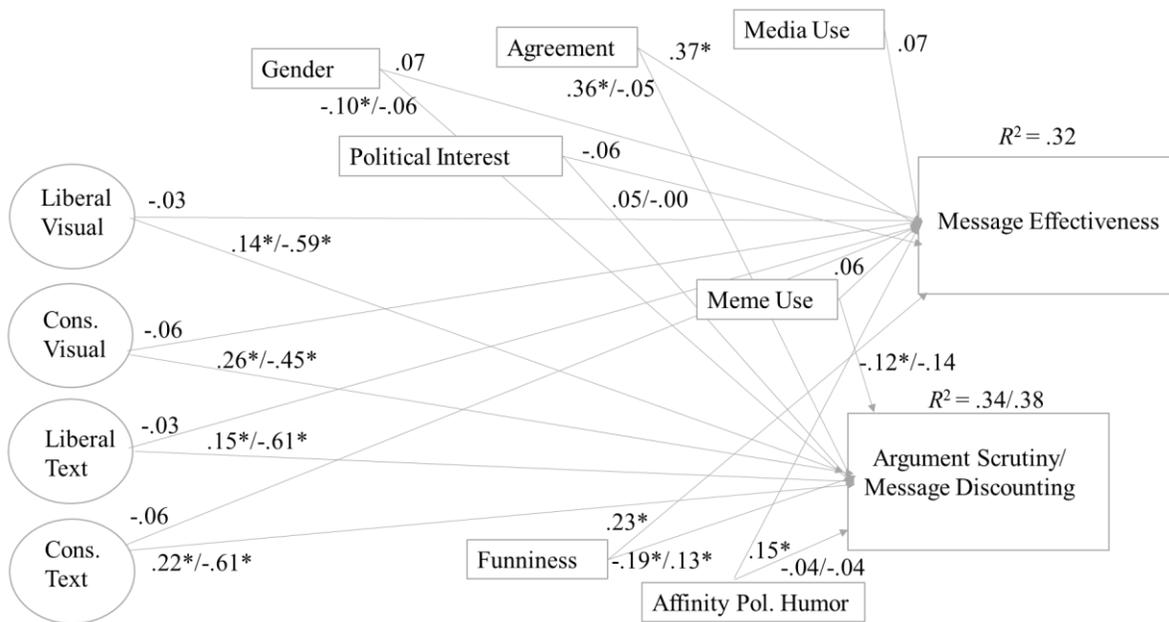
In addition to examining variables that moderated differences in the outcome variables, linear regression analyses revealed predictors of variance in the outcome variables. These models showed meme type, political interest, political engagement, gender, and media use predicted positive affect, while meme type, political interest, affinity for political humor, meme use, and funniness predicted aversion. Figure 20 depicts these linear regression models.



β values. Those marked with * significantly contribute to the linear regression model.

Figure 20. Linear regression for predictors of affect.

On the persuasiveness outcome variables, linear regression models demonstrated that meme type, gender, political interest, media use, meme use, affinity for political humor, funniness, and agreement predicted message effectiveness. Excepting media use, the same variables also predicted argument scrutiny and message discounting. Figure 21 depicts these identified linear regression models.



β values. Those marked with * significantly contribute to the linear regression model.

Figure 21. Linear regression for predictors of meme persuasiveness perceptions.

6.3 Theoretical and Practical Implications of Memes' Effects

The present study contributes to the understanding of how user-generated political humor in the form of internet memes influences and is processed by viewers. It has implications for the study of political humor and “infotainment” and “soft news,” as well as for the study of media effects of user-generated media. The results of this study indicate that viewing political internet memes significantly reduces positive affect while increasing feelings of aversion as compared to viewing non-political memes. Although political internet memes were not necessarily seen as being more persuasive than non-political memes, participants in this study did appear to take political memes more seriously as an attempt to convey an argument or idea – even if they didn’t see political memes as an effective way to do so.

Agreement with political memes is an important influence in perceptions of political memes’ effectiveness, with those who agreed with a meme rating it as more effective and subjecting it to less argument scrutiny than those who disagreed. Funniness played a similar role

as agreement, with those who thought political memes were funny also rating memes as being more effective and scrutinizing them less. Thinking memes were funny reduced feelings of aversion. Affect was influential in perceptions of persuasiveness no matter whether the political memes seen were visual memes with the combined image and text, or whether they were text-only versions.

However, those who thought memes they saw were funny also had higher message discounting scores than those who did not think any meme was funny, indicating they did not take the memes as seriously as a message form. This might speak to normative ideas about what media is “valuable” versus “not valuable” discourse or media. For example, recent research from the Pew Research Center (Matsa & Lu, 2016) demonstrates that while people now get a lot of their information and news from social media, at the same time they do not trust social media as much other news sources. It is quite possible that memes, spread via social media, are subject to this dichotomy of being consumed as media, but not trusted. Additionally, Hodson and MacInnis (2016) point to a general dismissal of humor as just jokes, as well as the social pressure surrounding jokes – failing to “get” the joke is often seen as a lack of intelligence. Perhaps there is a social desirability factor surrounding memes, whereby people report them as “just jokes” to show they are intelligent enough to get the joke.

6.3.1 Affect, processing, and memes

Although positive affect was lowered and aversion increased by viewing political internet memes in the present study, and although reported affect means of specific emotions were relatively low overall, these results should not be taken to suggest that affect is unimportant to the study of political memes. On the contrary, these results suggest that different types or genres of memes elicit different types of affect, and therefore can influence viewers differently. Political

internet memes act and function differently from non-political memes, especially as it comes to affect, and future research regarding memes' effects should continue to use careful explication of the specific types of memes being considered (e.g. Shifman, 2014 point to the importance of explication of meme genres and relation to effects).

In the research by Guadagno et al. (2013) on affect in memes' spread, which focused on positive affect elicited by memes as a precursor to sharing them, the authors noted that although negatively valenced memes may be more complex to study and understand than positively valenced memes, such memes are no less socially relevant. Indeed, positive and negative affect may play an important role in delineating political ingroup and outgroup associations in viewers' minds and guiding subsequent behavior in political contexts (Conover, 1988). For example, political bloggers tend to share videos that not only enhance or support their own beliefs, but also are often disparaging of those on the other side of the issue (Wallsten, 2011). The present study did not directly assess political meme sharing as an outcome of viewing memes or affect as related to ingroup and outgroup associations, but future research in this area should continue to explore these associations.

These results also support the contention of Marcus et al. (2006) that aversion plays a distinct role in reactions to political content. The significantly lowered positive affect and increased sense of aversion, as well as overall more negative feelings observed among viewers of political internet memes in the present study, is likely a result of the political content of the memes. The results of the present study suggest scholars ought to extend the application of aversion in politics to the study of viral, user-generated political media to understand how such media influence voters.

Indeed, in a discursive analysis of image macro memes related to controversies surrounding Donald Trump and Hillary Clinton during the 2016 election, Ross and Rivers (2017) found that the memes used a delegitimization strategy to discredit the object of the memes. Hodson and McInnis (2016) also point to the use of humor that relies on in group and out group cues as a delegitimization strategy in interpersonal settings to attempt to justify bigotry and prejudice. This delegitimization strategy of humor offers an explanation to the results on affect observed in the present study. That is, if political internet memes specialize in a disparaging or delegitimizing form of humor, this could be what is producing the drop in positive affect and increase in aversion observed in the present study. The present study did include political memes that could be considered of a disparaging nature toward the issue or figure depicted.

Additionally, in a study of political parody videos, Becker (2014a) noted that people tended to like or feel more favorable toward videos that were targeted toward those on the opposite side of the political spectrum. Likewise, agreement with the meme did not influence the impact on affect, which could speak to the influence of the direction or type of humor used in political memes has on viewers. The results of the present study suggest that it is possible that even if someone agrees with the message in a disparaging political meme, the affective, persuasive power of the meme lies not in eliciting positive affect through association or agreement, but rather in eliciting aversion toward the figure or issue depicted. Future research should assess the direction or target of memes' humor and specific humor strategies, such as delegitimization, in conjunction with measuring affect toward the meme and toward the object or subject of the meme to better understand these relationships.

It should be pointed out that the means for the affect subscales or positive affect and aversion in the present study were still quite low on the 1 to 5 scale. The mean positive affect

score for those in any of the political meme conditions was 2.33, in the non-political meme condition it was a 2.40, and in the comparison group the positive affect mean was a 2.91. These means correspond to feeling “a little” to a “moderate” amount of each specific emotion on the scale. The aversion mean for those in the political meme conditions was a 1.56, in the non-political condition it was a 1.38, and in the no-meme group a 1.43. Interestingly, those in the no-meme group also had the highest negative affect mean, a 1.68, though this difference was not statistically significant. However, these scores are reflective of scores obtained by Guadagno et al. (2013) in their study of memes and affect as related to meme sharing. These relatively low scores may be due to a ceiling effect of sorts, where viewing the stimuli was not enough to trigger strong feelings of the specific emotions listed. Although viewing internet memes does not trigger extreme amounts of specific emotions for most, meme viewing still elicits some emotional reaction, as evidenced by the results of the present study.

6.3.1.1 Affect and processing political information

As mentioned in Chapter 2, there are many theories of affect as related to information seeking, information processing, and judgments in political contexts. Most of these theories suggest that low-certainty moods (e.g. fear or anxiety) lead to systematic processing of political information consumed, although higher-certainty moods (e.g. happiness or anger) lead to heuristic-based processing (Isbell, et al., 2006). According to affective intelligence theory, familiar or comfortable information should yield positive affect, specifically enthusiasm, and unfamiliar or uncertain information should trigger anxiety or anger. (Redlawsk, Civettini & Lau, 2007). Loosely using this theory as a basis, the present study hypothesized that participants who agreed with the political memes they saw would have greater positive affect than those who disagreed. As noted, the results of the present study did not support this hypothesis. This implies

that there is more to the story of affect here than familiar/comfortable information vs. unfamiliar or uncomfortable information.

To see whether participants in the present study reported experiencing differences in specific emotions approximating those described by affective intelligence theory based on which memes they saw, additional analyses were performed. To verify that there were no significant differences even on the single positive affect item of *enthusiasm* in this study, a two-way ANOVA was performed. There was no significant interaction between which political memes were seen and participant political ideology on enthusiasm, $F(6, 358) = .22, p = .969$, indicating that participants who were exposed to potentially more comfortable information (that is, memes that matched their own political ideology) did not experience significantly more enthusiasm than those who were not. Likewise, a two-way ANOVA indicated no significant differences in responses to the aversion subscale (the present study did not measure anxiety; Nardulli and Kuklinski (2007) suggest other emotions such as anger or fear work the same way as anxiety) based on the interaction between political memes seen and political ideology, $F(6, 359) = 1.03, p = .407$, suggesting that in the present study, participants exposed to potentially unfamiliar or uncomfortable information did not experience more aversion than others.

The results of the present study then seem to challenge the basic premise of affective intelligence theory that familiar or comfortable information leads to enthusiasm or positive affect, and unfamiliar or uncomfortable information leads to anxiety or aversion. In the present study, people did not feel more positive or enthusiastic about memes they agreed with. This again speaks to the importance of determining the effect of information/media content, including discursive strategies like approach to humor, in affective responses to humorous political media like memes. The results of this study highlight the fact that, although posed as a theory of

political information, affective intelligence theory does not clearly provide a mechanism for dealing with political humor – also a source of political information. This speaks to the rapidly diminishing normative divide between political “information” and “entertainment” in our modern media environment. However, this could be because the present study was not specifically designed to test affective intelligence theory as such, but simply rather to test the direction of affect related to viewing political memes and to provide a basis for future research. Therefore, some of the measures related to that theory as presented here are at best only proximate measures of those theoretical concepts (e.g. matching political ideology for exposure to familiar vs. unfamiliar information), which could affect the results as related to affective intelligence theory.

Affective intelligence theory also posits that uncertain information can trigger anxiety. Memes, especially political ones, could be considered a message form with a degree of uncertainty built in due to the need for the viewer to ultimately “decode” the meme’s message based on their own experience or knowledge. The present study did indicate that political memes increased aversion. Affective intelligence theory argues that anxiety would trigger systematic processing of the information, in the present study most closely operationalized as argument scrutiny. Although anxiety specifically was not measured in the present study, there is a positive, weak correlation between aversion and argument scrutiny in the present study, $r(508) = .10, p = .023$, suggesting that as aversion increased, so did argument scrutiny. Still, this correlation is weak and the design of the present study—in which the affect items were answered after the persuasiveness items and in which both affect and persuasiveness were conceptualized as separate outcome variables—prohibits any conclusions about cause and effect between aversion and scrutiny.

Affective intelligence theory also specifically refers to affect stemming from information. Perhaps participants in the present study did not view memes as information, as evidenced by their assessments of memes persuasiveness, with political memes rated as less effective and subjected to more scrutiny, although it is unclear whether viewers need consider something as information for it to produce effects. The results of the present study related to perceptions of memes' persuasiveness also suggest that viewers are at least capable of responding to memes as a type of political information, making this explanation less likely.

As it stands, the present study raises serious questions about affective intelligence theory's usefulness for application to the study of viral and/or user-generated political media like internet memes. Future research into political internet memes could potentially expand affective intelligence theory by first examining more closely the response to memes as either comfortable or uncomfortable information and what about the meme content contributes to that perceptions, in addition to affective responses, and next by testing the causal chain between affective responses to memes and information processing by assessing whether aversion works like anxiety is hypothesized to in the theory by triggering subsequent systemic message processing versus heuristic processing.

6.3.1.2 Affect and motivated reasoning

As discussed in Chapter 2, Redlawsk (2002) also described the importance of affect in processing information with the hot cognition hypothesis, which maintains that pre-existing affect acts as a heuristic for processing new information and plays a role in motivated reasoning in the processing of new information – specifically that people try to interpret new information in light of their existing affect. Although not formally hypothesized in the present study, the results of the current study do provide some evidence that affect could have been a heuristic for

processing the memes in the study, supporting the hot-cognition hypothesis. The self-rating of overall (global) affect item was presented in the post-test questionnaire prior to the meme redispays and measures of meme persuasiveness, and it is significantly correlated with message effectiveness, $r(508) = .26, p < .001$; argument scrutiny, $r(508) = -.34, p < .001$; and message discounting, $r(508) = .18, p < .001$. Indeed, controlling for global affect eliminated significant differences between political memes and non-political memes on message effectiveness, $F(1, 507) = .138, p = .711$, but not argument scrutiny. This suggests that the more positive overall someone felt, the more they saw the memes they saw as effective.

Likewise, participants expressed greater favorability for specific political figures and issues in line with their own political ideology. They completed this task before completing the persuasiveness ratings of each meme. There is some evidence that participants rated at least some memes as being more effective and engaged in less argument scrutiny when they also already felt favorable toward the political issue depicted. For example, liberal meme B depicted Oprah “giving out” marriage equality to everybody, the way she was known to give gifts to audience members on her talk show. A one-way ANOVA on the effectiveness and scrutiny means for that specific meme using favorability toward the political issue of marriage equality as the factor showed significant differences between those who were favorable toward marriage equality and those who were unfavorable on both message effectiveness, $F(2, 101) = 5.04, p = .008$; and on argument scrutiny, $F(2, 101) = 5.64, p = .005$. Tukey post hoc tests revealed the differences were such that those who were favorable rated the meme as significantly more effective and engaged in lower argument scrutiny (effectiveness $M = 2.87, SD = .71$; scrutiny $M = 2.78, SD = .68$) than those who were unfavorable (effectiveness $M = 1.73, SD = .55$; scrutiny $M = 3.60, SD = .82$). However, this difference was only significant in the text-only condition, not

the visual meme condition. Although there were no significant differences overall between text-only and visual versions of memes, perhaps this is evidence that in ambiguous contexts (no visual), people relied on their own biases to assess the meme's message.

In another example, conservative meme C depicted the character Willie Wonka deprecating the idea of gun control measures using the logic that criminals don't follow laws. As with the liberal meme, a one-way ANOVA revealed there were significant differences between those who were favorable toward gun control and those who were unfavorable toward gun control on both message effectiveness, $F(2, 110) = 10.74, p < .001$; and argument scrutiny, $F(2, 101) = 13.42, p < .001$. Tukey post hoc tests indicated that the differences were such that those who were unfavorable toward gun control (that is, agreed with the premise of the meme) rated the meme as more effective and engaged in less argument scrutiny than did those who were unfavorable toward gun control. However, unlike the liberal meme on marriage equality, this difference was also significant for the visual version of the meme on both message effectiveness, $F(2, 76) = 22.01, p < .001$ and argument scrutiny, $F(2, 76) = 13.95, p < .001$.

These analyses suggest that one way affect may be important to political memes' influence on viewers is through the hot-cognition hypothesis; that is, affect toward an issue or figure acts as a heuristic for interpretation of new information in a meme. Future research testing the hot cognition hypothesis and internet memes should measure affect toward specific objects to try to match and tease out differences in affect toward issues or figures and toward the idea or argument made in memes, and perhaps even toward the meme itself.

6.3.1.3 Motivated reasoning and perceptions of persuasiveness

Beyond the implications of affect in motivated reasoning, the present study's results provide evidence of motivated reasoning in viewers' approaches to understanding or interpreting

memes' visual arguments in how people perceived memes' persuasiveness. Those whose own political ideology matched that of the political memes they saw reported significantly higher message effectiveness scores and lower argument scrutiny scores than those whose ideology did not match that of the memes. These results may be evidence of selective judgment at work, in which individuals are more careful to scrutinize information critical of their beliefs. As stated in Chapter 2, selective judgment is sometimes called motivated skepticism and contributes to political polarization (Lebo & Cassino, 2007; Taber & Lodge, 2006), a concern in a democratic society that values public deliberation and consensus.

Even when participants stated they agreed with a meme that did not necessarily match their own ideology, as some did, it is possible they were engaging in selective perception in doing so, which is the act of interpreting information in such a way as to uphold existing beliefs. LaMarre et al. (2009) found evidence of selective perception in interpreting political satire that may have formed an ambiguous message situation. Again, memes themselves may represent a somewhat ambiguous message situation, as in many ways the meaning of a meme's visual rhetoric or argument is dependent on the meaning the viewer ascribes to it or how they decode it. Future research should continue to test these dimensions of motivated reasoning, including selective exposure, with internet memes. Also of note: the argument scrutiny scale used here was created for the present study out of individual, single-item measures gathered from previous research. The scale had acceptable, nearly good, reliability in the present study, and worked as expected in conjunction with the message effectiveness scale. As such, this study introduces a scale that may be useful for the quantitative study of individuals' ability to assess the quality of arguments presented in a stimulus. Future research should continue to test the reliability of this

scale to measure argument quality scrutiny in studies of media, regarding both motivated reasoning and other constructs of interest.

The results of the present study indicate that motivated reasoning is an appropriate theory for the study of political internet memes, and extends motivated reasoning theory to the study of viral, visual, user-generated political media by providing evidence of motivated reasoning in the consumption of memes. In presenting some evidence of the role of affect in motivated reasoning, as well as evidence for selective judgment and selective perception in processing memes, the present study supports the necessity of studying such media for the effects on viewers. Because people engage in motivated reasoning in assessing memes' persuasiveness, it is possible that internet memes do contribute to – and are products of – a polarized media environment. These findings also highlight the importance of the viewers' own biases in the effects of memes' visual rhetoric, and suggest that although some may create memes as a form of digital, everyday talk in an attempt to contribute to larger political dialogues, whether viewers interpret the same meaning could be dependent on the viewer's biases.

6.3.2 Humor, agreement, and meme effects.

The present study's results indicate that political internet memes can influence viewers similarly to other forms of political humor and satire, which underscores the importance of studying political internet memes as a type of political humor. Specifically, thinking a specific political meme was funny resulted in higher perceptions of that meme's persuasiveness, as evidenced by significantly higher message effectiveness and lower argument scrutiny than those who did not think the meme to be funny. Additionally, finding memes funny was associated with less aversion than not finding memes funny. Personal characteristics, such as affinity for

political humor and meme use, also influenced these results and are important for consideration in the study of meme effects.

The Affinity for Political Humor scale may be especially useful for the study of memes. Developed by Holbert et al. (2013) as a measure to capture an individual’s tendency and motivations to appreciate and consume political humor, in the present study, this measure played a role in moderating perceptions of memes’ persuasiveness, as did finding memes funny and agreeing with the memes. The present study’s results suggest that among college-aged young adults, interest and engagement in politics, affinity for political humor, media use, and meme use are intertwined. These variables are significantly weakly to moderately correlated to one another in the present study. Table 16 shows Pearson correlations among political engagement, interest, affinity for political humor, and media use, including meme use.

Table 16. Pearson Correlations among key participant perception variables

	Political Engagement	Political Interest	AFPH	Media Use	Meme Use
Political Engagement	n/a	.435**	.231**	.285**	.241**
Political Interest	.435**	n/a	.288**	.186**	.096*
AFPH	.231**	.288**	n/a	.182**	.248**
Media Use	.285**	.186**	.182**	n/a	.356**
Meme Use	.241**	.096*	.248**	.356**	n/a

* $p < .05$ ** $p < .01$

In the present study, political engagement, political interest, and media use contributed to predictions of variances in positive affect, and political interest, affinity for political humor and meme use contributed to predictions of variations of meme perceived persuasiveness. These findings suggest that among 18- to 24-year-old college students, affinity for political humor and media consumption, including meme consumption, are important aspects of interest in politics

and political engagement. The Hmielowski et al. (2011) study found a relationship between AFPH and consuming political satire. The present study's results extend these findings by suggesting that it is possible that those with greater affinity for political humor seek out and consume more internet memes, and could in turn be more influenced by them.

Additionally, both those who thought a political meme was funny and those who agreed with the meme found that meme to be more persuasive than those who did not find the meme funny or did not agree with it. In the present study, thinking at least one meme was funny and agreeing with the idea in at least one meme were moderately correlated, $r(471) = .46, p < .001$, suggesting there could be a causal relationship between thinking a meme was funny and agreement with the argument contained within it – and by extension, perceptions of memes' persuasiveness – although the present study did not test such a relationship. Still, from these results, it is clear that humor contained in the memes did play a role in participants' processing of the memes' content and perceptions of persuasiveness.

These results about the relationship between humor and agreement and meme persuasiveness study mirror research in the political satire field that have found that satirical media triggers peripheral cognitive processing, which is more reliant on biases, schema, and the like to make sense of the message (e.g. Kim & Vishak, 2008). In the present study, participants who thought a meme was funny subjected its arguments to significantly less scrutiny. This result echoes research on late-night comedy show jokes in which Young (2008) found that humor disrupted argument scrutiny by affecting processing ability and motivation.

Several theories as to why political humor has this effect on processing exist, including humor as heuristic cue and the resources allocation explanation (Gilkerson & LaMarre, 2011; Polk et al., 2009). Alternatively, Gregorowicz (2013) proposed a model of humor-triggered

cognition, arguing that political comedy encourages learning through cognitive engagement with the humor. That research found the strongest effects among those who could understand and enjoy humorous messages, but were otherwise not inclined to think about politics without the proverbial spoonful of sugar of being amused. It may be that in devoting central processing to the humor itself, underlying messages in political entertainment are cognitively dealt with via peripheral processing routes, like schemata and biases, leading to persuasive effects on these issues. Indeed, Hoffman and Young (2011) note that satire requires cognitive effort on the part of viewers to understand or get the joke. This could be especially true of internet memes, as their visual arguments require some level of mental effort on the part of the viewer to decode.

In the present study, those with higher affinity for political humor rated the memes as being significantly more effective, as did those who thought the meme was funny. These results suggest preliminary support for the resources allocation explanation and the humor-triggered cognition model proposed by Gregorowicz (2013) when it comes to political memes' influence. It is possible that part of political memes' persuasive effects comes from their humor, which in effect splits viewers' cognitive effort to focus more closely on getting the joke, while allowing the underlying political argument to be processed more peripherally. Future research should seek to measure the cognitive effort devoted to understanding memes' humor, and examine that in relation to political outcomes related to the memes' content, such as opinions of political figures or issues, political learning, intention to participate politically, and so forth. Such research might also draw upon theories such as the elaboration likelihood model to understand the role of memes' humor in how people process memes' visual messages.

Overall, the results of the present study indicate that political internet memes function similarly to other, more traditional forms of political humor and political satire in the effects they

have on viewers' ability or motivations to process the message. This suggests that memes' humor either disrupts deeper cognitive processing or consumes viewers' central processing capacity, triggering peripheral forms of processing based on already held beliefs to make sense of memes' underlying visual political arguments. As such, political internet memes can contribute to political polarization as people see what they want to see in a given meme, but could also contribute to other outcomes such as political learning. Future research into political internet memes should approach memes as a type of political humor to examine the relationships among affect, humor, processing path, and effects of political internet memes in a variety of contexts.

6.3.3 Visual vs. text-only memes and meme effects

This study showed no difference in the text-only and visual political memes in terms of affect or perceptions of persuasiveness. This somewhat unexpected result may be because the impact of humor overrode the impact of visuals: participants did not think one version was significantly funnier than the other. A one-way ANOVA revealed there were no significant differences between those assigned to the visual political meme conditions and those assigned to the text-only political meme conditions on whether the participants thought the memes they saw were funny or not, $F(1, 391) = .11, p = .739$.

Because the text and visual versions of the memes used the same language and content, the lack of differences may have been because the idea or argument conveyed by the meme was more influential than the picture or structure of the meme. The textual structure used which gave a hint as to the original picture (e.g. "Oprah says") may have also been enough for participants to fill in their own mental picture to complete the visual enthymeme.

The manipulation check questions for the text-only conditions showed weak, positive correlations between participants thinking they had seen the message before and negative affect, and between being reminded of internet memes and positive affect. Because these were weak correlations, it is not expected that they influenced the overall results of the present study. Though participants in the text-only conditions in present study could not have seen the exact message prior to this study, they could have seen similar memes and/or come across the idea or message presented prior. The fact this was correlated with negative affect could be reflective of the observed relationship between meme use and negative affect and aversion, in that more familiarity increased negativity. Participants in the text-only political meme conditions saying the stimuli they saw reminded them of internet memes was weakly correlated with positive affect. Although viewing political memes overall resulted in lower positive affect, this may be one place where the visuals made a slight difference. More research is needed to continue to assess the specific impacts of visuals on memes' effects.

6.3.4 Public sphere, everyday talk, and memes

The normative theory of the public sphere (Habermas, 1989) emphasizes the importance of discourse to democratic society; much of the theory's value for media scholars is in the emphasis the theory places on examining both citizens' talk about public issues and on media affordances for them to do so (Calhoun, 1992). Internet memes fall squarely into concerns over the public sphere and public discourse. First, internet memes are an embodiment of changing civic cultures afforded by technological advancements and the rise of participatory media culture. Second, memes run smack into the normative debate regarding the value of certain kinds of talk and topics for democratic discourse, and whether memetic discourse can be deemed rational enough to meet Habermas' requirements.

The results of the present study indicate that even very brief, seemingly fleeting media messages like memes were subject to motivated reasoning and influenced affect, particularly aversion. These findings have implications for concerns about toxic talk and polarization in online environments (e.g. Anderson, et al., 2016), and in turn memes' contributions to or erosion of the public sphere. Indeed, one known meme creator felt compelled to "kill off" his character Pepe the Frog, who had been adopted by white supremacist alt-right groups during the 2016 election, to try to stop the character being used by them (Sanders, 2017). In June 2017, news broke that Harvard University had rescinded the admissions of 10 high schoolers to the Class of 2021 for their participation in toxic talk on Facebook, much of which included sharing memes that were deemed racist and sexist (Natanson, 2017).

As previously noted, much of the previous research on memes has approached them as a form of discourse. Memes themselves can serve a dual functions as everyday talk and as consumable political mass media. At the same time, memes seem to straddle this divide between discourse and media while not fully belonging to one category or the other. On one hand, memes reflect Mansbridge's (1999) cycle of influence of everyday talk, in which memes' influence spreads as they are shared and as some memes are reported on in mainstream media outlets. Anecdotal evidence suggests that memes as political or politicized discourse are now a mainstream enough concept that memes as such do not even need to be explicitly defined when discussed in mainstream media (e.g. Friedman, 2016). On the other hand, neither are memes the sort of one-on-one interpersonal conversation Mansbridge (1999) envisioned in conceptualizing everyday talk. Rather, memes' viral nature, in which they are distanced from their creator(s) and shared in processes more akin to a one-to-many form of mass communication, distinguishes memes from traditional everyday talk. At the same time, memes are created by individuals, not

traditional mass media producers, and a meme contains many iterations on a common theme (Shifman, 2014), separating memes from other forms of true mass media.

This dual nature of memes speaks to the question of the role of the sharer in memes' influence on viewers. For example, if someone shares a meme on their social media sites, do they essentially become a proxy for the original creator of the meme's message in the minds of those in the sharer's social networks who see the meme? That is, does endorsement of or advocacy for the idea contained within the meme by a known individual influence responses to a meme in a process like that of everyday talk compared to viewing the meme with an unfamiliar or impersonal sharer? Whether memes are conceptualized as everyday talk or as mass media could in this sense have implications for how memes' effects are assessed. Future research should continue to explore the implications for understanding memes' influence in society and the public sphere by approaching them as either everyday talk, as mass media, or both.

The results of this study and the theory of the public sphere also suggests that memes' contributions to discourse and effects on democracy should be considered. As noted in Chapter 2, for meme creators, meme making may be a way to participate in politics. Ross and Rivers (2017) approached a series of image macro memes related to controversies surrounding Donald Trump and Hillary Clinton during the 2016 election as a form of delegitimizing discourse. They concluded that meme creators were engaging in political participation, "not only to help the creator share their view and spread their message, in the hope of influencing others, but to delegitimize the target of the meme to bring about their own desired political result" (Ross & Rivers, 2017, p. 10). Considering this in the context of the present study, in which viewing political memes increased feelings of aversion and were subject to motivated reasoning, one can

see that political internet memes could have different effects on those who are creating memes and those who are viewing them.

Future research should explore this dual quality of memes as a function of their hybrid nature as both participative action and persuasive messaging. Such research might also want to examine memes' delegitimization strategies in context of their contribution to civic discussion of political and politicized issues vis a vis the normative public sphere. What does it mean for the public sphere and for democracy if memes are beneficial when engaged with as a type of political participation, but detrimental if the discourse they create is of otherwise low or toxic quality? Future research should more closely examine, compare, and contrast the discursive strategies used in memes, e.g. delegitimization vs. more positive framing, as well as stated or implied motivations for sharing memes to explore their influence in and contribution to toxic talk online and the subsequent effects on viewers.

The fact that the political internet memes in the present study reduced positive affect while increasing aversion, perhaps due to delegitimization strategies as observed by Ross and Rivers (2017), could have implications for viewers' future political engagement or other political outcomes not measured by the present study – as discussed in Chapter 2. As noted, the present study offered evidence of motivated reasoning in perceptions of memes' persuasiveness. Motivated reasoning, including selective exposure to information, and related concepts such as filter bubbles, may impact democracy by shaping individuals' views of the world. In psychology dissertation research on selective exposure, Paul (2016) approached political ideology, such as liberalism or conservatism, itself as a personality trait that might predict selective exposure in combination with other personality traits, such as openness and conscientiousness. The study examined participants' self-reported willingness to read news articles about Hillary Clinton or

Donald Trump based on provided headlines, as well as their self-reported anticipated response to memes about the same two figures on Facebook. For example, people were shown a meme and asked if they saw it on Facebook, if they would unfriend or unfollow the poster, ignore the meme, like the post, etc. Though results in that study contradicted previous research, they pointed to the importance of understanding how the public reacts to polarizing figures, like Trump and Clinton. Future research should explore more closely the relationship between personality and political action in relation to memes' influence. Additionally, the present study grouped people into conservative, liberal, or moderate political ideology. Future research should examine the people at the political poles vs. those more centric to consider differences in memes' effects in the realm of bias and polarization.

While not used in previous analyses, it is of note that participants in this study reported a third-person effect of political internet memes. That is, participants reported that others, rather than themselves, are likely to be influenced by political internet memes regarding their thinking and awareness of politics and political participation. The third-person effect is another manifestation of concerns of media bias, in which people believe media content does not influence them, but instead believe that others are likely to have been influenced, perhaps due to lack of discernment or coping skills to resist persuasive messaging (Davison, 1983). These concerns also relate to normative concerns of the public sphere. In many ways, it makes sense that people believe political memes to be influential to others over themselves, in keeping with memes' reputation as "not serious" forms of media, but it is also important that participants in this study did appear to have a perception that political memes are influential in political contexts overall. This speaks to the importance of studying how forms of everyday talk, including memes, that are facilitated by new and social media can influence those who consume them.

For example, meme use in the present study was positively correlated with both perceptions of political memes' effects on others, $r(627) = .18, p < .001$, and on one's self, $r(628) = .25, p < .001$, suggesting that the more one looked at, shared, or created memes, the more that person understood memes to be influential for politics, not just for others but also for themselves. Though not related to the outcome variables of interest in the present study, these results indicate that participants do perceive the discourse presented in political internet memes as having at least the potential to influence politics in the modern media environment. It also indicates that memes as a medium are subject to some classic media biases and effects, extending our tool set to test, measure, and understand how these viral, user-generated forms of media operate in modern society. Future research should continue to explore the implications of third-person effects of political internet memes, especially in conjunction with other theories such as framing, to understand how memes are perceived as being influential in our society.

Although a causal relationship between media use and political engagement was not tested in the present study, results indicate that media use, including meme use, and political interest and engagement are associated concepts among young adults. The present study successfully used a political engagement scale that included measures of online participation, offline participation, and online communication about politics, suggesting this scale could be useful for future research concerned with conceptualizing political engagement beyond traditional, offline forms of participation. Future research should continue to examine young people's perspectives on what "counts" as acceptable forms of political participation and their perceptions of internet memes as a form of participation. Likewise, future research should not shy away from taking up the normative challenge of the theory of the public sphere in assessing political memes' influence in society.

6.4 Concluding Summary

Although previous research on internet memes has examined memes as discourse and a path to political participation for those who create memes, the present study was concerned with establishing some ways that memes' discourse may have been influential to those who consumed the memes as media, specifically through affect and perceptions of persuasiveness. The results of the present study provide evidence that motivated reasoning theory is appropriate in research seeking to understand the influence of user-generated political media like memes, but also highlight challenges in affective intelligence theory in predicting affective responses to user-generated forms of political humor. The results of the study point to the importance of understanding political internet memes, specifically political image macro memes, as both political humor and as a genre distinct from other memes, with implications for civic participation and discourse, as well as understanding of political issues or events.

7 CONCLUSIONS

This study sought to understand the relationships between internet memes and affect and persuasiveness, including how political and nonpolitical memes may have differed in those relationships. The results demonstrate that memes reduce positive affect, and political memes increase aversion compared to non-political memes. Non-political memes were seen as more effective and scrutinized less than political memes, but were discounted as mere jokes more so than political memes. Political memes are subject to motivated reasoning in perceptions of their persuasiveness. Thinking memes were funny, affinity for political humor, and meme use acted as moderators of some of the dependent variables.

This study represents early research into the effects on viewers of a particular type of user-generated political media: political internet memes. These memes fill a niche in the modern media environment in that memes can be considered a form of public discourse in a digital public sphere. In many ways, these memes are akin to everyday talk that occurs outside of traditional channels for political deliberation, but still contribute to a cycle of influence regarding political issues. By joining in the discursive participatory practice of meme making, memes' creators are also creating digital media messages that others can consume as media or entertainment. Through intertextual processes, these political memes reference and are referenced by pop culture and news media, increasing memes' sphere of influence. Through this intertextuality, memes can be powerful pieces of visual rhetoric packaged in a simple form. However, little is yet known about how these visual arguments may influence those who view them. This study responds to the call to establish what defines an effect of an internet meme, and how these effects might be measured (Shifman, 2014).

This study used the construct of affect and the theory of motivated reasoning to demonstrate that political memes influence viewers' affect, namely by reducing positive affect and increasing aversion, and that viewers' agreement with the meme, whether operationalized by congruent ideology or stated agreement, influences their perceptions of memes' persuasiveness. Expected differences between visual political internet memes and text-only stimuli were not found on affect and persuasiveness. Differences between political internet memes and non-political internet memes were found, but not entirely as expected.

These frameworks were particularly suited to the initial study of memes' effects because they bridge memes' qualities with the exploration of larger social issues. First, emotions have been suggested as a key impetus for memes' appeal and spread. Affect, including emotions, has been demonstrated to be influential in political cognition, including evaluations and decision-making. It can also be considered an effect of consuming media. Second, because memes are visual and intertextual, their effect on viewers is in many ways dependent on how viewers view or interpret the arguments embedded in them. The theory of motivated reasoning suggests that people interpret messages in accordance with their pre-existing beliefs through processes of selective exposure, selective judgment, and selective perception. The second two processes are evident in the results of the present study, which found that those who agreed with a meme rated it higher on message effectiveness and lower on argument scrutiny.

This study used a quasi-experiment to test these hypotheses. Using an experiment supports the establishment of a causal chain between viewing political internet memes, affect, and meme perceptions. In doing so, this study represents a foundation for understanding the implications of viewing political internet memes in today's media environment. Political memes were demonstrated to influence affect in the present study, suggesting that meme viewing may

also be associated with later political decisions, such as voting. These results have implications for how user-generated content is studied as a type of media and for the influence of such user-generated media have in our modern, mediated society.

7.1 Limitations of the Study and Future Research

As with all research, the present study has some important limitations. Chapter 3 presented a discussion of potential threats to internal, external, and ecological validity and the design elements implemented in the present study to mitigate or account for them. Other limitations that might influence interpretation of the results are discussed here.

One limitation is the fact that participants in this study were a convenience sample of college students from one university who self-selected to participate. Although the recruitment materials mentioned that participants need not know a lot about politics to participate, it is possible the topic of the study – “politics and media” – was simply less appealing to some potential participants than to others and dissuaded them from participating. Therefore, the sample cannot be generalized to all young adults across the country. Still, as mentioned previously, the sample was generally representative of the campus population from which it was drawn in terms of ethnic background.

Another potential limitation is that the present study tested specific examples of memes to represent each basic meme category (liberal political memes, conservative political memes, and non-political memes), and all were of the image macro genre. Therefore, it is not known for certain whether these results can be generalized to political memes as a category within this medium. However, care was taken to sample the stimuli (Wells & Windschitl, 1999) to help mitigate this limitation by first searching broadly for examples of political memes, matching them to a set of a priori criteria, pilot testing them for political stance, and including three

exemplars in each category. Additionally, the political memes used in the study may have had influential characteristics not considered by the researcher at the time of implementation, such as the delegitimization discourse identified by Ross and Rivers (2017), which could have influenced the results, particularly on affect. Future research should expand on this approach by including other and more varieties of political memes (e.g. some that look more like “posters” or don’t use the typical Impact font, as well as covering different topics and approaches to humor) to test whether the results of the present study hold as representative of a category of political internet memes.

Although real memes were used in the present study to increase ecological validity, a limitation of the present study is that political memes in the “real world” are usually found in combination with other social media content. For example, political memes are often used as a form of rebuttal or argument in Facebook comment threads on links to news stories and political blogs shared to that site. One person might post a comment in their own words, and then someone else responds to that comment with a meme, and then someone else weighs in in response to the meme and so forth. The context in which memes are shared could influence how people respond to the memes, and is not examined in the current study. Future research should continue to explore ways to increase ecological validity by varying the context of presentation.

Along these lines, future research should look at the influence of the sharer in meme effects. New research from the American Press Institute’s Media Insight Project and the Associated Press-NORC Center for Public Affairs Research (2017) indicates that, when it comes to information shared via social media, the sharer—not the original creator or source—plays an important role in how viewers perceive the content and quality of that information. These findings are reminiscent of traditional two-step flow theories of media effects in which opinion

leaders disseminate information from traditional media to other individuals, and are in many ways more influential than the mainstream media source (e.g. Katz, 1957). They are also related to notions of source credibility (e.g. Hovland & Weiss, 1951). The phenomenon could also be related to third-person effects, as it is possible that people think others will be more influenced if people they trust share memes. Looking for such parallels to traditional media theory will continue to serve to ground the study of the effects of new and social media in established media theory and better illuminate how a changing media environment influences people.

Another limitation of the present study is that it relies on two self-report measures of affect. Future research should continue to explore the role of affect in responses to political user-generated media as both an outcome and as a moderator or mediator of other outcomes of interest. In doing so, such scholarship can expand the ways in which affect is conceptualized and measured. The present study primarily relied on a self-report measure of specific emotions, but implicit reaction tests could be another way to measure affect that does not rely on self-report (e.g. Redlawsk, 2002). Operationalizing affect in a variety of ways across research studies could also yield a better understanding of the connections between memes and affect. Additionally, although the PANAS subscales each had good reliability in the main study, they all achieved even higher reliability in the pilot study, without the need to eliminate an item from the aversion subscale. This could be due to the presentation order, which was randomized in the main study, but in the pilot study instead used the order provided by Watson et al. (1988). Future research with the PANAS should be aware that presentation order could affect the reliability of the subscales, especially if adding aversion.

Future research should also examine affect in the context of social groups and cues and how it shapes reaction to new information. For example, Conover's (1988) cognitive-affective

model suggests affect toward social groups is stored and drawn on in political thinking, with greater political sympathy toward ingroups. The present study hints at that phenomenon, as with the favorability ratings of political issues and figures falling in line with participant political ideology, but this study does not specifically test the role of affect in subsequent processing. Future research should test affect in a causal chain with affect toward a variety of objects, including social groups, and moderating processing style, as well as outcomes such as planned or actual behavior, such as voting or information seeking.

7.2 Questions Raised for Future Research

Although the present study provides a foundation for understanding some dimensions of memes' influence on affect and how people may process memes' messages, there are also many questions raised by the results for future research to continue to explore to understand how humorous, user-generated, digital political media function. One such question that these results raise is: If viewing political memes lowered positive affect, while meme use increased feelings of aversion, what might the implications of political meme consumption be for outcomes such as self-efficacy or political efficacy? It is possible that the combination of increased aversion and decreased positive affect could contribute to political apathy or disaffectedness. Although scholars have argued that creating or sharing political internet memes is a way for people to get involved and participate in political discourse online (e.g. Milner, 2012; Milner, 2013; Ross & Rivers, 2017), future research should also examine outcomes related to viewing memes such as efficacy and/or future behavioral intention, like intention to engage politically, to assess whether looking at memes has a dampening effect on political involvement. It is possible that creating political memes and looking at political memes have different effects on the creator or viewer.

Along these same lines, the present study demonstrated that some personal characteristics, like meme use, political interest, and affinity for political humor, moderate the affective responses to memes. Future research should continue to explore these characteristics to discover if certain types of people behave differently from each other after viewing memes. That is, are some types of people encouraged to political involvement by memes and some people lulled into inaction? In addition to affinity for political humor and political interest, information-processing characteristics such as need for affect and need for cognition could be tested for their influence in responses to media like memes.

Stemming from the results of this study, more research into motivated reasoning and polarization stemming from meme consumption is needed. Future research should also bring more traditional media effects theories into the study of political internet memes. For example, cultivation theory, although traditionally a theory dealing with TV viewing, could allow researchers to examine how amount of political meme consumption shapes viewers' understanding and mental models of the issues depicted. Though the present study did not measure viewers' mental models of memes or of the issues depicted in the memes, the results do suggest that participants have some ideas regarding memes' influence, especially the previously noted third-person effect of political internet memes. Open-ended questions asked as part of the present study could provide a starting point to understanding more about third-person perceptions of political memes. Likewise, viewers' meme use contributed to significant differences on affect and perceptions of memes' persuasiveness, suggesting that cultivation theory could be a fruitful tool for the study of political memes' influence. Framing research could similarly explore the influence of memes' framing of contentious issues on viewers. Such research would continue to look at the influence of viewer perceptions in these outcomes.

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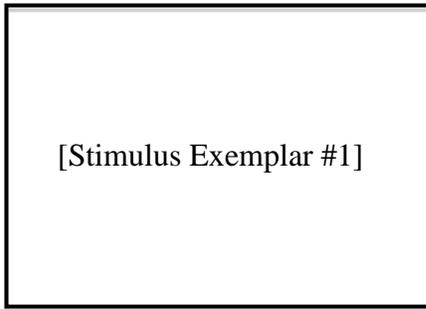
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APPENDICES

Appendix A: Post-test Questionnaires

Pilot Study Post-test Questionnaire

1. Please look at the following message. You will be asked to answer some questions about it.



2. How funny was this message? Use the following scale to record your answer.

- | | | | | |
|---------------------|-------------------|---------------------|-------------|--------------------|
| 1 | 2 | 3 | 4 | 5 |
| not funny
at all | a little
funny | moderately
funny | quite funny | extremely
funny |

3. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a politically conservative position, or was the message not political at all?

- Liberal Conservative Not political at all

4. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

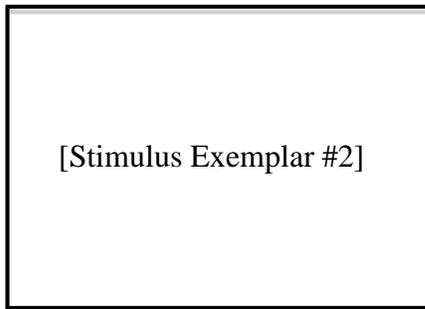
5. Had you ever seen this message prior to participating in this study?

- Yes No Don't Know/Unsure

6. How familiar were you with this message before your participation in this study?

- | | | | | |
|--------------------------------|----------|------------|-------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| very slightly
or not at all | a little | moderately | quite a bit | extremely |

7. Please look at the following:



8. How funny was this message? Use the following scale to record your answer.

1	2	3	4	5
not funny at all	a little funny	moderately funny	quite funny	extremely funny

9. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a conservative position, or was the message not political at all?

Liberal Conservative Not political at all

10. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

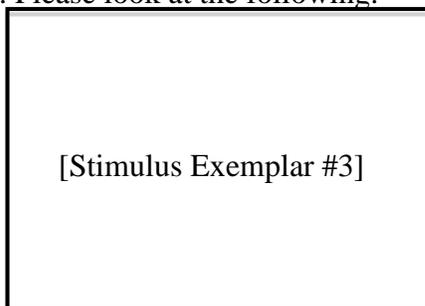
11. Had you ever seen this message prior to participating in this study?

Yes No Don't Know/Unsure

12. How familiar were you with this message before your participation in this study?

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

13. Please look at the following:



14. How funny was this message? Use the following scale to record your answer.

1	2	3	4	5
not funny at all	a little funny	moderately funny	quite funny	extremely funny

15. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a conservative position, or was the message not political at all?

Liberal Conservative Not political at all

16. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

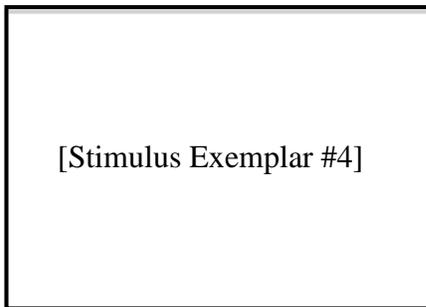
17. Had you ever seen this message prior to participating in this study?

Yes No Don't Know/Unsure

18. How familiar were you with this message before your participation in this study?

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

19. Please look at the following:



20. How funny was this message? Use the following scale to record your answer.

1	2	3	4	5
not funny at all	a little funny	moderately funny	quite funny	extremely funny

21. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a conservative position, or was the message not political at all?

Liberal

Conservative

Not political at all

22. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

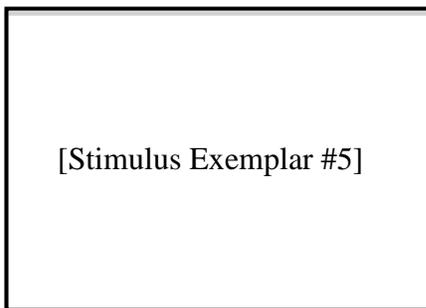
23. Had you ever seen this message prior to participating in this study?

Yes No Don't Know/Unsure

24. How familiar were you with this message before your participation in this study?

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

25. Please look at the following:



26. How funny was this message? Use the following scale to record your answer.

1	2	3	4	5
not funny at all	a little funny	moderately funny	quite funny	extremely funny

27. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a conservative position, or was the message not political at all?

Liberal

Conservative

Not political at all

28. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

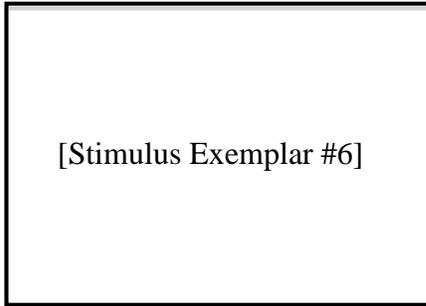
29. Had you ever seen this message prior to participating in this study?

Yes No Don't Know/Unsure

30. How familiar were you with this message before your participation in this study?

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

31. Please look at the following:



32. How funny was this message? Use the following scale to record your answer.

1	2	3	4	5
not funny at all	a little funny	moderately funny	quite funny	extremely funny

33. Not everyone sees media messages the same way; we all have our own unique perspectives. Would you say this message had a politically liberal position, a conservative position, or was the message not political at all?

Liberal Conservative Not political at all

34. In your own words, please explain your choice in the previous question. What about the message led you to select the answer you did? Again, there are no right or wrong answers.

35. Had you ever seen this message prior to participating in this study?

Yes No Don't Know/Unsure

36. How familiar were you with this message before your participation in this study?

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

37. Following are a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer for each word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

- | | |
|--|---|
| <input type="checkbox"/> interested
<input type="checkbox"/> distressed
<input type="checkbox"/> excited
<input type="checkbox"/> upset
<input type="checkbox"/> strong
<input type="checkbox"/> guilty
<input type="checkbox"/> scared
<input type="checkbox"/> hostile
<input type="checkbox"/> enthusiastic
<input type="checkbox"/> proud
<input type="checkbox"/> irritable
<input type="checkbox"/> alert | <input type="checkbox"/> ashamed
<input type="checkbox"/> inspired
<input type="checkbox"/> nervous
<input type="checkbox"/> determined
<input type="checkbox"/> attentive
<input type="checkbox"/> jittery
<input type="checkbox"/> active
<input type="checkbox"/> afraid
<input type="checkbox"/> angry
<input type="checkbox"/> bitter
<input type="checkbox"/> hatred
<input type="checkbox"/> contempt |
|--|---|

38. Please list, in your own words, the thoughts you had while looking at the message(s) you just saw. This can be whatever crossed your mind, even if it wasn't exactly about the message. There are no right or wrong answers.

- | | |
|--|--|
| 1.

2.

3.

4.

5. | 6.

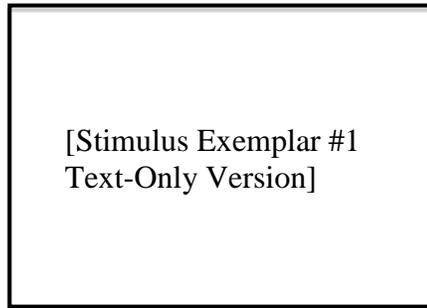
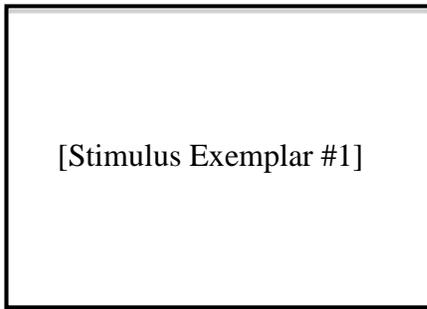
7.

8.

9.

10 |
|--|--|

39. Please look at the following messages and compare them to one another:



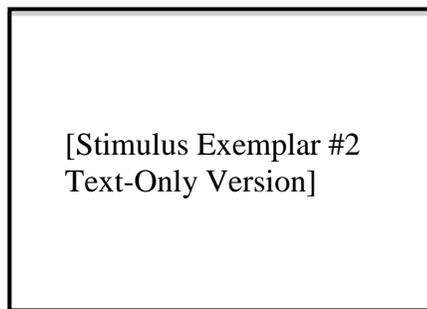
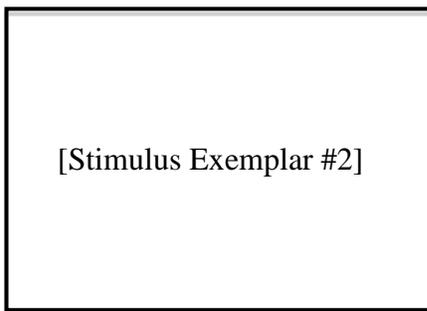
40. Please indicate your level of agreement with the following statement: The text-only message gives the same basic information as the picture message.

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

41. In your own words, explain your answer to the previous question. What do you think makes these two messages the same or different? There are no right or wrong answers.

42. If you think the messages do not give the same basic information, please provide suggestions to make them more similar, without adding a picture to the text-only message.

43. Please look at the following messages and compare them to one another:



44. Please indicate your level of agreement with the following statement: The text-only message gives the same basic information as the picture message.

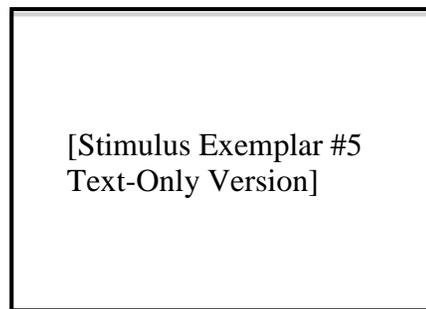
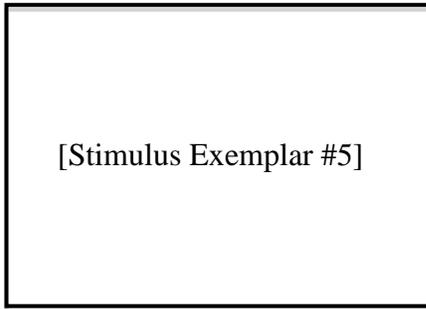
1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

45. In your own words, explain your answer to the previous question. What do you think makes these two messages the same or different? There are no right or wrong answers.

53. In your own words, explain your answer to the previous question. What do you think makes these two messages the same or different? There are no right or wrong answers.

54. If you think the messages do not give the same basic information, please provide suggestions to make them more similar, without adding a picture to the text-only message

55. Please look at the following messages and compare them to one another:



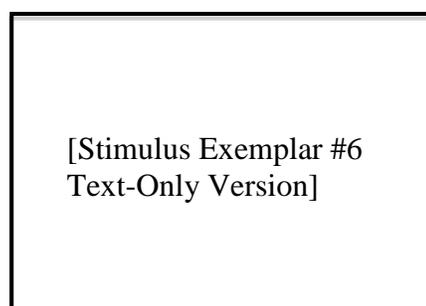
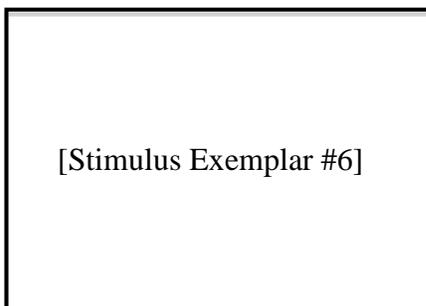
56. Please indicate your level of agreement with the following statement: The text-only message gives the same basic information as the picture message.

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

57. In your own words, explain your answer to the previous question. What do you think makes these two messages the same or different? There are no right or wrong answers.

58. If you think the messages do not give the same basic information, please provide suggestions to make them more similar, without adding a picture to the text-only message

59. Please look at the following messages and compare them to one another:



60. Please indicate your level of agreement with the following statement: The text-only message gives the same basic information as the picture message.

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

61. In your own words, explain your answer to the previous question. What do you think makes these two messages the same or different? There are no right or wrong answers.

62. If you think the messages do not give the same basic information, please provide suggestions to make them more similar, without adding a picture to the text-only message

63. Next you'll be asked to answer some questions about your political views. Thinking in terms of politics, would you say you are:

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Very Liberal 2. Liberal 3. Somewhat Liberal 4. Moderate 5. Somewhat Conservative | <ul style="list-style-type: none"> 6. Conservative 7. Very Conservative 8. Unsure/Don't know |
|---|---|

64. Now read these pairs of statements. Indicate whether the FIRST statement or the SECOND statement comes closer to your own views — even if neither is exactly right.

Government regulation of business is necessary to protect the public interest.
Government regulation of business usually does more harm than good.

This country should do whatever it takes to protect the environment.
This country has gone too far in its efforts to protect the environment.

Using overwhelming military force is the best way to defeat terrorism around the world.
Relying too much on military force to defeat terrorism creates hatred that leads to more terrorism.

Racial discrimination is the main reason that black people can't get ahead these days.
Blacks who can't get ahead in this country are mostly responsible for their own condition.

Government is almost always wasteful and inefficient.
Government often does a better job than people give it credit for.

The best way to ensure peace is through military strength.
Good diplomacy is the best way to ensure peace.

Homosexuality should be accepted by society.
Homosexuality should be discouraged by society.

Americans need to be willing to give up privacy and freedom in order to be safe from terrorism.

Americans shouldn't have to give up privacy and freedom in order to be safe from terrorism.

Government aid to the poor does more harm than good, by making people too dependent on government assistance.

Government aid to the poor does more good than harm, because people can't get out of poverty until their basic needs are met.

Stricter environmental laws and regulations cost too many jobs and hurt the economy.

Stricter environmental laws and regulations are worth the cost.

Immigrants today strengthen our country because of their hard work and talents.

Immigrants today are a burden on our country because they take our jobs, housing, and health care.

65. Below are listed some activities that you, yourself, may or may not have engaged in. For each activity listed, please indicate how often during the past 12 months you, yourself, have engaged in this activity. (If you have not taken part in one of the listed activities during the past year, choose the "never" option for that activity.) Please make sure that you answer each activity.

1	2	3	4	5
never	rarely	occasionally	frequently	very frequently

Contributed money online to a candidate?

Started or joined a political group, or group supporting a cause on a social networking site?

Signed up as a "friend" of any candidates on a social networking site?

Signed up online for any volunteer activities related to a political campaign, like helping to register voters or get people to the polls?

Customized a Web page to display new political or campaign information?

Attended a political meeting, rally, or speech?

Worked for a political party or candidate?

Shared photos, videos, or audio files online that relate to politics?

Forwarded someone else's political commentary or writing, or political audio or video to others?

Posted comments, queries, or information about politics in an online discussion forum, blog, social networking site, or Web site of any kind?

66. Below are listed some types of media that you, yourself, may or may not have consumed. For each media type listed, please indicate how often during the past 30 days you, yourself, have

consumed that media type. (If you have not consumed one of the listed media types during the past 30 days, choose the “never” option for that media.) Please make sure that you answer for each type of media.

1 2 3 4 5
never rarely occasionally frequently very frequently

- National broadcast TV news programs
- Local broadcast TV news programs
- Cable TV news programs
- Print newspaper
- A news organization’s website
- Blogs or personal sites
- Late-night comedy programs
- Broadcast dramatic programs
- Cable comedy programs
- Cable dramatic programs
- Social media sites (e.g. Twitter, Facebook, Instagram)
- Looked at internet memes
- Shared internet memes
- Created internet memes
- Created internet memes

67. Now please answer a few questions about yourself.

What was your age on your last birthday? ____

Do you identify as a male/female/other/prefer not to disclose?

What is your highest level of education completed?

High school 1-2 years college 2-4 years college other

What major are you at CSU?

Were you working on any other tasks or activities during this survey?

Yes

No

If yes, please specify: _____

What was the noise level in the room when you took this survey?

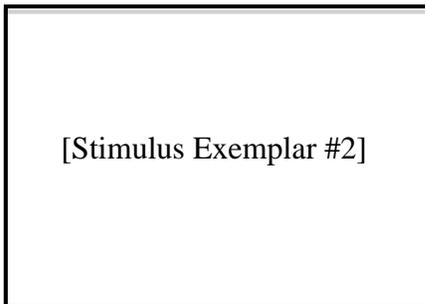
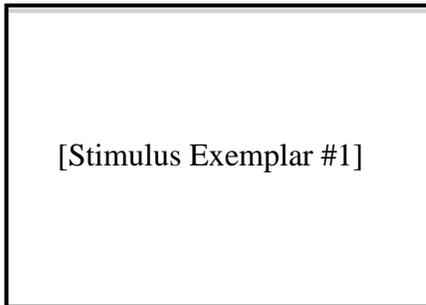
Very loud, Loud, Neither loud or quiet, Quiet, Very quiet

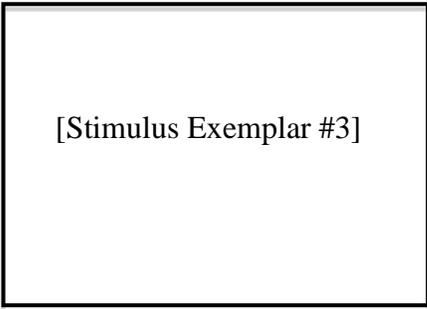
Thank you for completing this study. Please follow this link below if you wish to submit your information to be entered into the drawing for a chance to win one of two \$50 Amazon gift cards. Your personal information for the drawing will not be connected to your answers.

Main Study Post-test Questionnaire

Modifications for text-only conditions and comparison group not shown.

1. Please look at the following. You will be asked to answer questions about what you see. *When you are ready, click the NEXT button to continue.*





2. Thinking about how you feel right now, at this moment, would you say you feel more **positive** or more **negative** overall?

Extremely positive Somewhat positive Neither positive nor negative Somewhat negative Extremely negative

3. Please indicate how favorable or unfavorable you feel toward each of the following people, entities, or policies. Use the following scale to record your answers.

1	2	3	4	5	6
extremely unfavorable	unfavorable	neither favorable nor unfavorable	favorable	extremely favorable	Don't know/unsure

__ The Democratic Party

__ The Republican Party

__ Hillary Clinton

__ Ted Cruz

__ Donal Trump

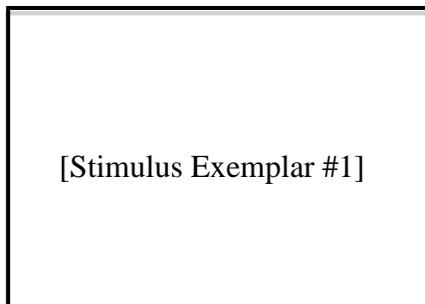
__ Bernie Sanders

__ Gun control

__ Raising minimum wage

__ Marriage equality

6. Please look again at this image you saw before:



7. Not everyone sees media messages the same way; we all have our own unique perspectives. What idea do you think this message is trying to convey? Please answer in your own words. There are no right or wrong answers.

8. Would you say you generally agree or disagree with the idea presented here?

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

9. Keeping in mind this message and the ideas presented in it, please read the following statements and indicate your level of agreement with each one. *There are no right or wrong answers, just your own opinion.*

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

I found this message persuasive regarding its topic.

I did not find this message convincing regarding its topic.

I think people similar to me would find this message persuasive regarding its topic.

I think the arguments or statements made in this message were valid ones.

I think the arguments or statements made in this message were not based on a firm understanding of the situation.

I think the arguments or statements made in this message were of high quality.

I was looking for flaws in the arguments or statements made in this message.

The message was intended to persuade viewers about its topic.

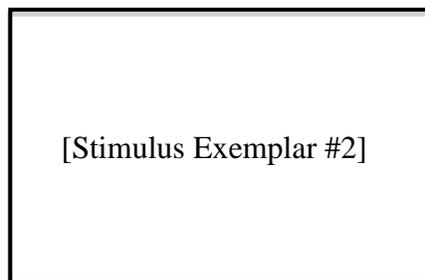
The message was intended to entertain viewers about its topic.

The author was serious about advancing his or her views about the topic in this message.

This message was only a joke about its topic.

I thought this message was funny.

11. Please look again at this image you saw before:



12. Not everyone sees media messages the same way; we all have our own unique perspectives. What idea do you think this message is trying to convey? Please answer in your own words. There are no right or wrong answers.

13. Would you say you generally agree or disagree with the idea presented here?

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

14. Keeping in mind this message and the ideas presented in it, please read the following statements and indicate your level of agreement with each one. *There are no right or wrong answers, just your own opinion.*

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

I found this message persuasive regarding its topic.

I did not find this message convincing regarding its topic.

I think people similar to me would find this message persuasive regarding its topic.

I think the arguments or statements made in this message were valid ones.

I think the arguments or statements made in this message were not based on a firm understanding of the situation.

I think the arguments or statements made in this message were of high quality.

I was looking for flaws in the arguments or statements made in this message.

The message was intended to persuade viewers about its topic.

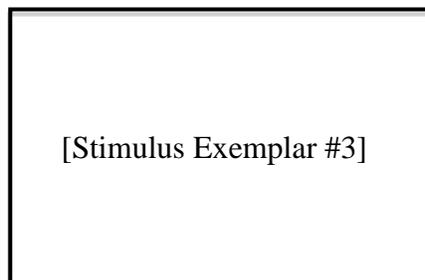
The message was intended to entertain viewers about its topic.

The author was serious about advancing his or her views about the topic in this message.

This message was only a joke about its topic.

I thought this message was funny.

16. Please look again at this image you saw before:



17. Not everyone sees media messages the same way; we all have our own unique perspectives. What idea do you think this message is trying to convey? Please answer in your own words. There are no right or wrong answers.

18. Would you say you generally agree or disagree with the idea presented here?

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

19. Keeping in mind this message and the ideas presented in it, please read the following statements and indicate your level of agreement with each one. *There are no right or wrong answers, just your own opinion.*

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

I found this message persuasive regarding its topic.

I did not find this message convincing regarding its topic.

I think people similar to me would find this message persuasive regarding its topic.

I think the arguments or statements made in this message were valid ones.

I think the arguments or statements made in this message were not based on a firm understanding of the situation.

I think the arguments or statements made in this message were of high quality.

I was looking for flaws in the arguments or statements made in this message.

The message was intended to persuade viewers about its topic.

The message was intended to entertain viewers about its topic.

The author was serious about advancing his or her views about the topic in this message.

This message was only a joke about its topic.

I thought this message was funny.

Had you ever seen these exact images prior to participating in this study?

Yes

No

Don't Know/Unsure

Following are a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer for each word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

- interested
- distressed
- excited
- upset
- strong
- guilty
- scared
- hostile
- enthusiastic
- proud
- irritable
- alert
- ashamed
- inspired
- nervous
- determined
- attentive
- jittery
- active
- afraid
- angry
- bitter
- hatred
- contempt

21. Next you'll be asked to answer some questions about your political views. Thinking in terms of politics, would you say you are:

- | | |
|---------------------|--------------------------|
| 1. Very Liberal | 5. Somewhat Conservative |
| 2. Liberal | 6. Conservative |
| 3. Somewhat Liberal | 7. Very Conservative |
| 4. Moderate | 8. Unsure/Don't know |

22. Now read these pairs of statements. Indicate whether the FIRST statement or the SECOND statement comes closer to your own views — even if neither is exactly right.

Government regulation of business is necessary to protect the public interest.
 Government regulation of business usually does more harm than good.

This country should do whatever it takes to protect the environment.
 This country has gone too far in its efforts to protect the environment.

Using overwhelming military force is the best way to defeat terrorism around the world.
 Relying too much on military force to defeat terrorism creates hatred that leads to more terrorism.

Racial discrimination is the main reason that black people can't get ahead these days.
Blacks who can't get ahead in this country are mostly responsible for their own condition.

Government is almost always wasteful and inefficient.
Government often does a better job than people give it credit for.

The best way to ensure peace is through military strength.
Good diplomacy is the best way to ensure peace.

Homosexuality should be accepted by society.
Homosexuality should be discouraged by society.

Americans need to be willing to give up privacy and freedom in order to be safe from terrorism.
Americans shouldn't have to give up privacy and freedom in order to be safe from terrorism.

Government aid to the poor does more harm than good, by making people too dependent on government assistance.
Government aid to the poor does more good than harm, because people can't get out of poverty until their basic needs are met.

Stricter environmental laws and regulations cost too many jobs and hurt the economy.
Stricter environmental laws and regulations are worth the cost.

Immigrants today strengthen our country because of their hard work and talents.
Immigrants today are a burden on our country because they take our jobs, housing, and health care.

23. Generally speaking, how INTERESTED are you in what is going on in government and public affairs?

1	2	3	4	5
not at all interested		neither interested nor disinterested		very interested

24. Below are listed some activities that you, yourself, may or may not have engaged in. For each activity listed, please indicate how often during the past 12 months you, yourself, have engaged in this activity. (If you have not taken part in one of the listed activities during the past year, choose the "never" option for that activity.) Please make sure that you answer each activity.

1	2	3	4	5
never	rarely	occasionally	frequently	very frequently

Contributed money online to a candidate?

Started or joined a political group, or group supporting a cause on a social networking site?

Signed up as a “friend” of any candidates on a social networking site?

Signed up online for any volunteer activities related to a political campaign, like helping to register voters or get people to the polls?

Customized a Web page to display new political or campaign information?

Attended a political meeting, rally, or speech?

Worked for a political party or candidate?

Shared photos, videos, or audio files online that relate to politics?

Forwarded someone else’s political commentary or writing, or political audio or video to others?

Posted comments, queries, or information about politics in an online discussion forum, blog, social networking site, or Web site of any kind?

25. Please indicate your level of agreement with the following statements:

1	2	3	4	5
strongly disagree	disagree	neither agree or disagree	agree	strongly agree

I appreciate political humor because it can reveal the weaknesses of our political leaders and institutions.

I appreciate political humor because it can make me feel more knowledgeable about politics.

I appreciate political humor because it can aid me in reinforcing my political beliefs.

I appreciate political humor when it makes me aware that our political system is dysfunctional.

I appreciate political humor because it can help me express my political opinions.

I appreciate political humor because it can reduce the anxiety I feel toward politics.

I appreciate political humor when it helps me make better sense of why our political system is dysfunctional.

I appreciate political humor because it can help me better cope with awkward situations.

I appreciate political humor because it can help me effectively criticize politics and politicians.

I appreciate political humor because it allows me to be friendly with people who hold political views that are different from my own.

I appreciate political humor because it allows me to form stronger bonds with people who hold similar political views as my own.

I know pretty much about pop culture (such as TV shows or movies, music, or internet sites).

I do not feel very knowledgeable about pop culture (such as TV shows or movies, music, or internet sites).

Among my circle of friends, I'm one of the "experts" on pop culture (such as TV shows or movies, music, or internet sites).

Compared to most other people, I know less about pop culture (such as TV shows or movies, music, or internet sites).

When it comes to pop culture (such as TV shows or movies, music, or internet sites), I really don't know a lot.

I think political memes (that is, internet memes about politics) do or could influence my thinking and awareness of current politics.

I think political memes (that is, internet memes about politics) do or could make me more likely to participate in the political process.

I think political memes (that is, internet memes about politics) do or could influence others' thinking and awareness of current politics.

I think political memes (that is, internet memes about politics) do or could make other people more likely to participate in the political process.

26. Below are listed some types of media that you, yourself, may or may not have consumed. For each media type listed, please indicate how often during the past 30 days you, yourself, have consumed that media type. (If you have not consumed one of the listed media types during the past 30 days, choose the "never" option for that media.) Please make sure that you answer for each type of media.

1	2	3	4	5
never	rarely	occasionally	frequently	very frequently

___ National broadcast TV news

___ Local broadcast TV news

___ Cable TV news

___ Print newspaper

___ A news organization's website

___ Blogs or personal sites

___ Late-night comedy TV shows

___ Broadcast TV dramas

- Cable comedy TV shows
- Cable TV dramas
- Social media sites (e.g. Twitter, Facebook, Instagram)
- Looked at internet memes
- Shared internet memes
- Created internet memes

27. If you look at, create, or share memes, please explain why in your own words. There are no right or wrong answers; we are interested in your personal experience.

28. Regardless of your own level of experience with internet memes, why do you think or suppose other people create, look at, or share memes? Please explain in your own words. There are no right or wrong answers.

29. **Do you think that political internet memes shared on social media, such as Facebook, are an important way people can be involved in the political process?** Please explain your thoughts in your own words. There are no right or wrong answers; we are interested in your personal opinions.

30. Now please answer a few questions about yourself.

What was your age on your last birthday? ____

Do you identify as a male/female/other/prefer not to disclose?

Do you identify as ... (select all that apply)

- Hispanic or Latino
- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or other Pacific Islander
- White
- Prefer not to disclose

What year are you at CSU by credit hours?

Freshman/Sophomore/Junior/Senior/Graduate or Professional

What is your primary major at CSU?

Were you working on any other tasks or activities during this survey?

Yes No If yes, please specify: _____

What was the noise level in the room when you took this survey?

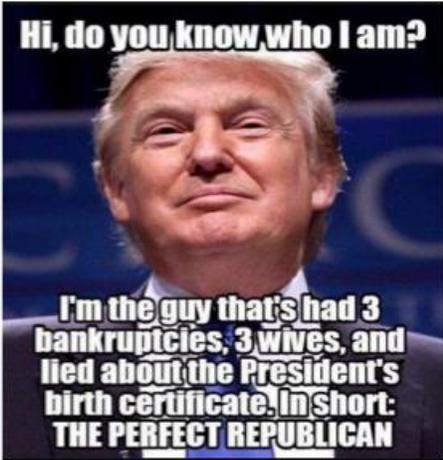
Very loud, Loud, Neither loud or quiet, Quiet, Very quiet

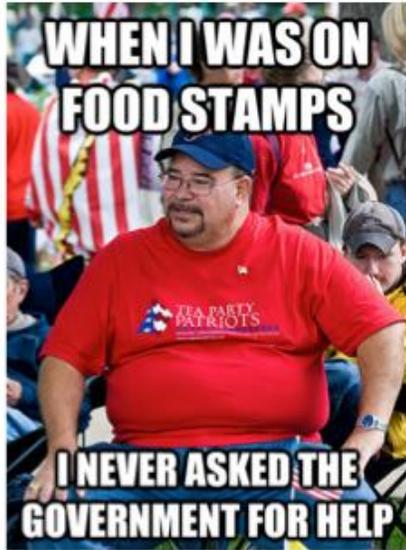
Did you participate in a study on internet memes, media, and politics conducted by the same researchers during the Fall 2015 semester?

Yes/No/Unsure

Appendix B: Stimuli Used in the Study

Stimuli Used in the Pilot Test

Visual Meme	Text-Only Version
	<p>Barack Obama puts on sunglasses: The GOP thinks President Obama is the most dangerous president in history. You know who else says that? Al Qaeda.</p>
	<p>Donald Trump says: "Hi, do you know who I am? I'm the guy that's had 3 bankruptcies, 3 wives, and lied about the President's birth certificate. In short: THE PERFECT REPUBLICAN."</p>
	<p>McDonald's employee: Wants \$15/hour. Can't remember to put straw in my bag.</p>



Overweight man wearing a Tea Party Patriots T-shirt says: "When I was on food stamps, I never asked the government for help."



Oprah says: "You get a gay marriage! And you get a gay marriage! And you get a gay gay marriage! Everyone gets a gay marriaaaaage!"



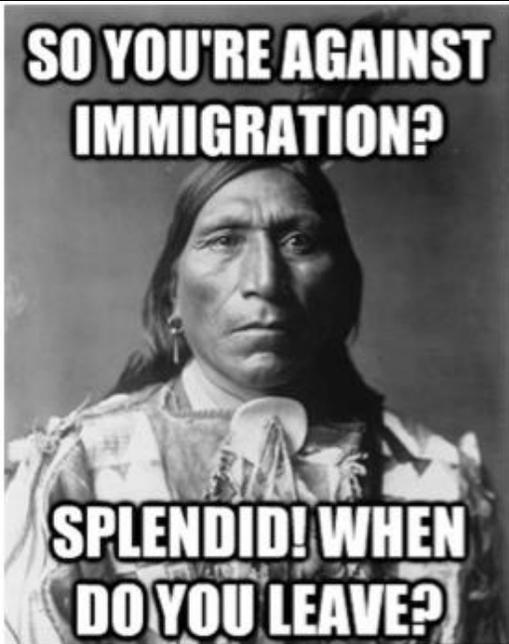
Skeptical baby says: "You mean to tell me spoons don't actually sound like airplanes?"



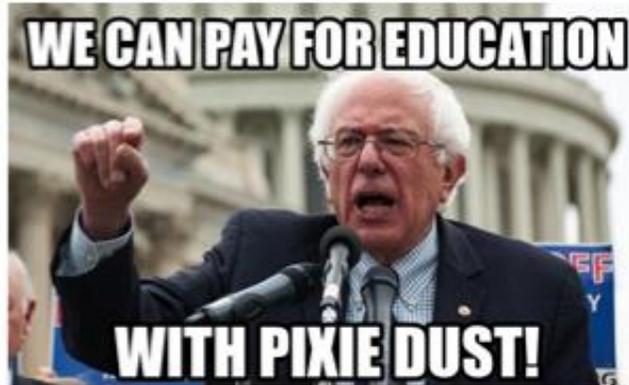
Barack Obama says: "I like Obamacare because the best things in life are free. Give or take \$2 trillion."



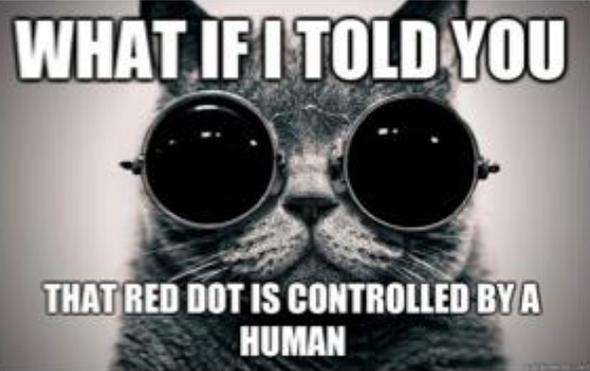
Donald Trump says: "Foreign policy? Mess with the United States and there will be hell toupee."



Native American man says: "So you're against immigration? Splendid! When do you leave?"

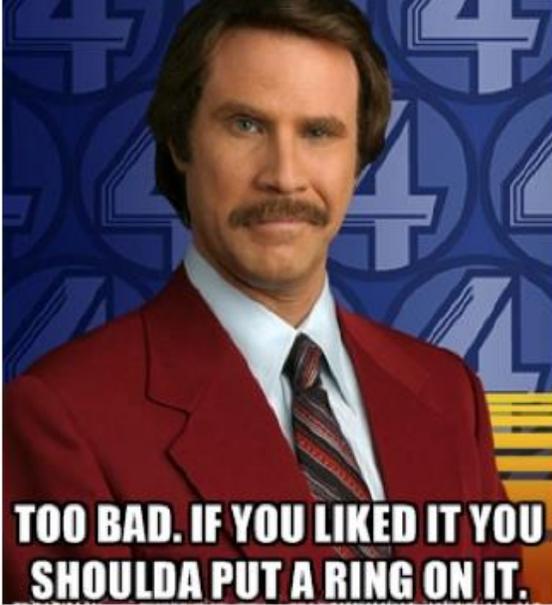


Bernie Sanders says: "We can pay for education with pixie dust!"



Morpheus Cat says: "What if I told you that red dot is controlled by a human."

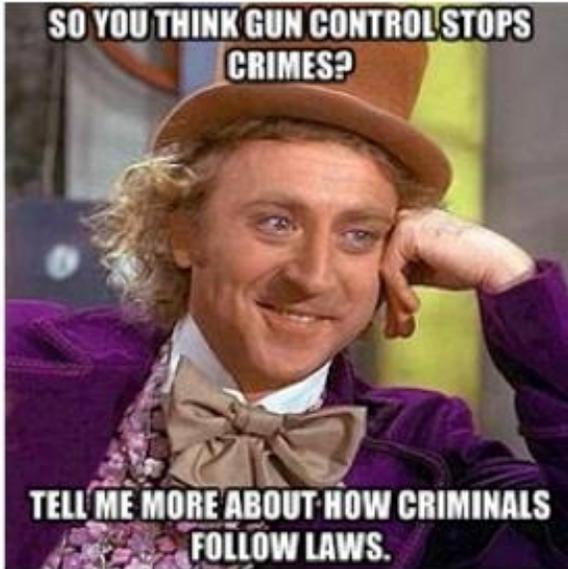
**YOU LOST YOUR PHONE AND IT'S
ON SILENT?**



**TOO BAD. IF YOU LIKED IT YOU
SHOULDA PUT A RING ON IT.**

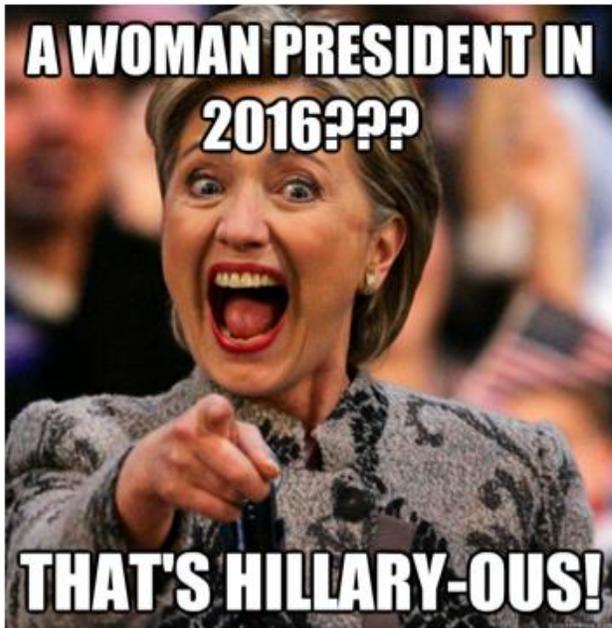
Ron Burgundy says: "You lost your phone and it's on silent? Too bad. If you liked it you shoulda put a ring on it."

**SO YOU THINK GUN CONTROL STOPS
CRIMES?**

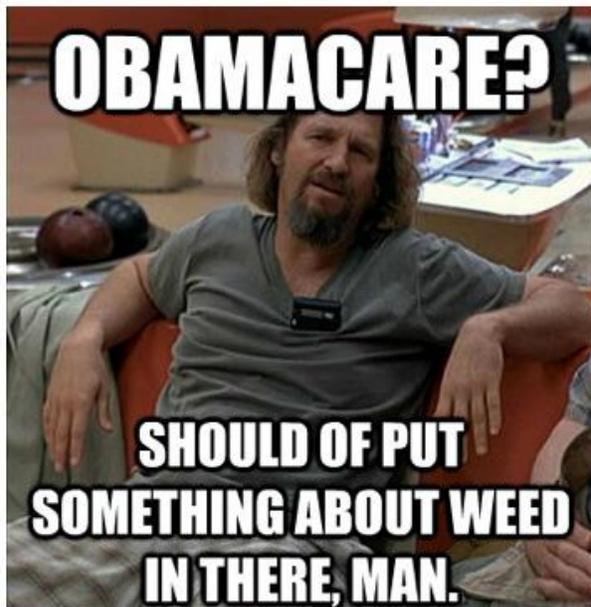


**TELL ME MORE ABOUT HOW CRIMINALS
FOLLOW LAWS.**

Willie Wonka: "So you think gun control stops crimes? Tell me more about how criminals follow laws."



Hillary Clinton smiles wide and points:
A woman president in 2016??? That's
Hillary-ous!



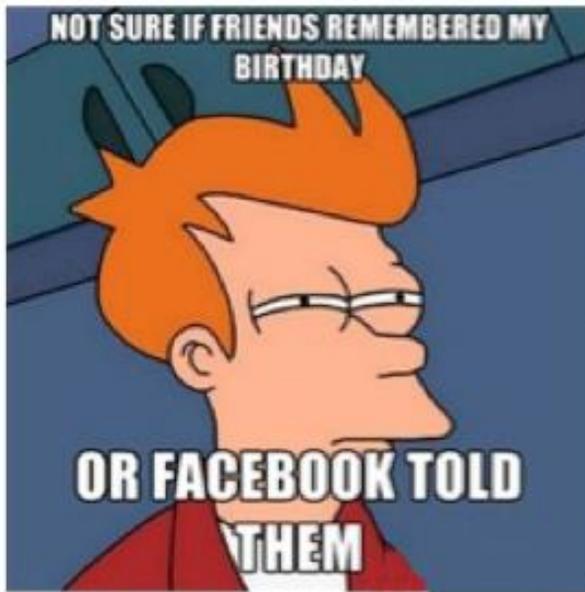
Man with long hair says: "Obamacare? Should
of put something about weed in there, man."



Bernie Sanders says: "The messier his hair gets the more powerful he becomes."



Skeptical Third World Kid says: "So, you're telling me that you have free, clean, near infinite water from several sources in your house, but instead you drive somewhere to buy it in plastic bottles that will never disintegrate?"



Fry says: "Not sure if friends remembered my birthday, or Facebook told them."



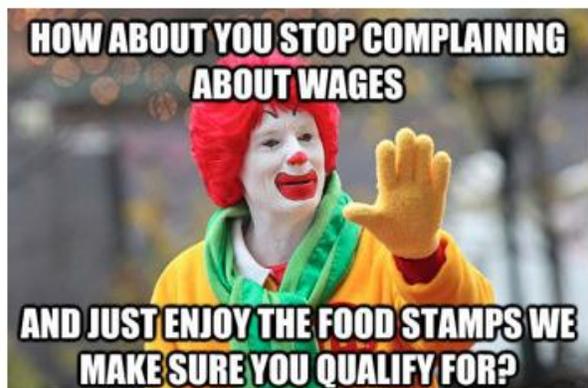
Willie Wonka says: "Oh, you need a magazine that holds 30 rounds? Is that in case the deer starts shooting back?"



Barack Obama texts: "Hey Hil, Whatchu doing?"
Hillary Clinton replies: "Running the world."



Oprah says: "You get marriage equality! And you get marriage equality! And you get marriage equality! Everyone gets marriage equality!"



Ronald McDonald says: "How about you stop complaining about wages and just enjoy the food stamps we make sure you qualify for?"



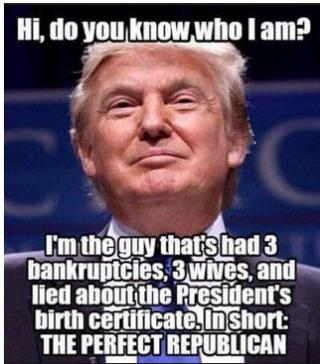
Guinea pig says: "They see me rollin' they hatin."



Dog at computer says: "I can't figure out why my laptop from 1995 can't pick up a wifi signal."

Stimuli Used in the Main Study

Liberal Visual Memes



A



B



C

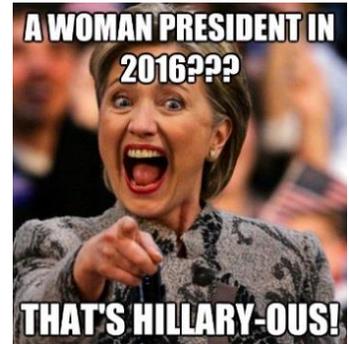
Conservative Visual Memes



A



B



C

Liberal Text-Only Memes

Donald Trump says: "Hi, do you know who I am? I'm the guy that's had 3 bankruptcies, 3 wives, and lied about the President's birth certificate. In short: THE PERFECT REPUBLICAN."

A

Oprah says: "You get marriage equality! And you get marriage equality! And you get marriage equality! Everyone gets marriage equality!"

B

Willie Wonka says: "Oh, you need a magazine that holds 30 rounds? Is that in case the deer starts shooting back?"

C

Conservative Text-Only Memes

Hillary Clinton says: "A woman president in 2016??? That's Hillary-ous!"

A

McDonald's employee: Wants \$15/hour. Can't remember to put straw in my bag.

B

Willie Wonka says: "So you think gun control stops crimes? Tell me more about how criminals follow laws."

C

Non-Political Memes



A



B



C

Appendix C: CSU Majors in the Sample

Table 17. CSU majors in the sample.

Major	<i>n</i>	Percent	Major	<i>n</i>	Percent
Agricultural Business	3	.5	Geology	12	1.9
Apparel and Merchandising	18	2.8	Health and Exercise Science	48	7.6
Applied Computing Technology	2	.3	Horticulture	5	.8
Art BA	2	.3	Hospitality Management	1	.2
Art BFA	18	2.8	Human Development and Family Studies	5	.8
Biochemistry	2	.3	International Studies	1	.2
Biology	4	.6	Journalism and Media Communication	6	.9
Biomedical Engineering	20	3.2	Liberal Arts	3	.5
Biomedical Sciences	19	3.0	Mathematics	1	.2
Business Administration	47	7.4	Mechanical Engineering	7	1.1
Chemistry	7	1.1	Microbiology	22	3.5
Chemical and Biomedical Engineering	24	3.8	Natural Resource Recreation and Tourism	24	3.8
Civil Engineering	16	2.5	Natural Resources Management	19	3.0
Communication Studies	19	3.0	Natural Sciences	1	.2
Computer Engineering	1	.2	Neuroscience	2	.3
Computer Science	4	.6	Nutrition and Food Science	1	.2
Construction Management	11	1.7	Philosophy	1	.2
Economics	11	1.7	Physics	9	1.4
Ecosystem Science and Sustainability	25	3.9	Political Science	34	5.4
Electrical Engineering	19	3.0	Psychology	2	.3
Engineering Science	1	.2	Rangeland Ecology	1	.2
English	2	.3	Social Work	2	.3
Environmental Engineering	1	.2	Sociology	20	3.2
Environmental Health	12	1.9	Soil and Crop Sciences	2	.3
Environmental Horticulture	3	.5	Statistics	4	.6
Family and Consumer Sciences	4	.6	Theatre	1	.2
Fermentation Science and Technology	2	.3	Undeclared-Exploring	25	3.9
Fish, Wildlife and Conservation Biology	30	4.7	Zoology	21	3.3
Forestry	11	1.7	Total	633	100.0

Table 18. Undeclared-Exploring areas of emphasis.

	<i>n</i>	Percent
Arts, Humanities and Design	6	.9
Environmental and Natural Resources	3	.5
Health, Life and Food Sciences	6	.9
Global and Social Sciences	3	.5
Land, Plant and Animal Sciences	3	.5
Organization, Management and Enterprise	3	.5
Physical Sciences and Engineering	1	.2
Total	25	3.9

Appendix D: One-Way ANOVA results for political memes

Agreement and persuasiveness

Table 19. One-way ANOVA for message effectiveness by meme and agreement

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	17.33	.000	Disagree*	34	2.32	.855
			Neither**	23	2.65	.813
			Agree	51	3.15	.596
Liberal Visual Meme B	14.15	.000	Disagree*	15	1.87	.950
			Neither**	17	2.35	.692
			Agree	76	3.07	.899
Liberal Visual Meme C	25.80	.000	Disagree*	33	2.08	1.04
			Neither**†	18	2.83	.857
			Agree	57	3.49	.822
Cons. Visual Meme A	7.69	.001	Disagree*	36	1.79	.744
			Neither	28	2.23	.743
			Agree	15	2.67	.807
Cons. Visual Meme B	23.83	.000	Disagree*	27	1.84	.688
			Neither**	11	2.09	.818
			Agree	41	3.22	.947
Cons. Visual Meme C	33.65	.000	Disagree*	17	1.90	.586
			Neither**†	10	2.80	.706
			Agree	52	3.72	.887
Liberal Text Meme A	34.30	.000	Disagree*	31	1.99	.733
			Neither**	27	2.42	.913
			Agree	46	3.51	.840
Liberal Text Meme B	10.48	.000	Disagree*	7	1.86	.573
			Neither**	20	2.28	.669
			Agree	77	2.97	.847
Liberal Text Meme C	53.24	.000	Disagree*	29	1.66	.743
			Neither**†	26	2.83	.744
			Agree	49	3.61	.878
Cons. Text Meme A	16.10	.000	Disagree*	49	1.76	.766
			Neither**‡	45	2.16	.812
			Agree	18	3.04	.983
Cons. Text Meme B	73.32	.000	Disagree*	38	1.69	.607
			Neither**†	18	2.94	.802
			Agree	56	3.54	.772

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Cons. Text Meme C	55.17	.000	Disagree*	31	1.82	.807
			Neither**	11	2.36	.924
			Agree	71	3.69	.874

* Difference between those who disagree and those who agree is significant at the .01 level.

** Difference between those who neither agree nor disagree and those who agree is significant at the .01 level.

† Difference between those who neither agree nor disagree and those who disagree is significant at the .01 level.

‡ Difference between those who neither agree nor disagree and those who disagree is significant at the .05 level.

* Difference between those who neither agree nor disagree and those who agree is significant at the .05 level.

** Difference between those who disagree and those who agree is significant at the .05 level.

Table 20. One-way ANOVA for argument scrutiny by meme and agreement

	<i>F</i>	<i>p</i>		<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	19.16	.000	Disagree*	34	3.76	.681
			Neither**†‡	23	3.29	.625
			Agree	51	2.80	.754
Liberal Visual Meme B	23.09	.000	Disagree*	15	3.81	.753
			Neither**†	17	3.06	.563
			Agree	76	2.55	.685
Liberal Visual Meme C	38.13	.000	Disagree*	33	3.84	.690
			Neither†	18	2.99	.609
			Agree	57	2.64	.600
Cons. Visual Meme A	8.77	.000	Disagree*	36	4.05	.609
			Neither†	28	3.57	.504
			Agree	15	3.37	.731
Cons. Visual Meme B	24.03	.000	Disagree*	27	4.17	.639
			Neither†	11	3.50	.733
			Agree	41	3.02	.663
Cons. Visual Meme C	32.89	.000	Disagree*	17	4.01	.569
			Neither**†	10	3.25	.612
			Agree	52	2.58	.669
Liberal Text Meme A	31.39	.000	Disagree*	31	4.02	.731
			Neither**†	27	3.78	.643
			Agree	46	2.79	.659
Liberal Text Meme B	9.32	.000	Disagree*	7	3.61	.675
			Neither**	20	3.21	.564
			Agree	77	2.73	.659
Liberal Text Meme C	67.33	.000	Disagree*	29	4.12	.573
			Neither**†	26	3.22	.455
			Agree	49	2.51	.663

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Cons. Text Meme A	22.30	.000	Disagree*	49	3.96	.622
			Neither†*	45	3.39	.562
			Agree	18	2.83	.874
Cons. Text Meme B	85.13	.000	Disagree*	38	4.32	.569
			Neither†*	18	3.14	.516
			Agree	56	2.75	.600
Cons. Text Meme C	43.20	.000	Disagree*	31	3.81	.691
			Neither**	11	3.39	.466
			Agree	71	2.53	.669

* Difference between those who disagree and those who agree is significant at the .01 level.

** Difference between those who neither agree nor disagree and those who agree is significant at the .01 level.

† Difference between those who neither agree nor disagree and those who disagree is significant at the .01 level.

‡ Difference between those who neither agree nor disagree and those who disagree is significant at the .05 level.

* Difference between those who neither agree nor disagree and those who agree is significant at the .05 level.

** Difference between those who disagree and those who agree is significant at the .05 level.

Table 21. One-way ANOVA for message discounting by meme and agreement

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	.129	.879	Disagree	34	2.79	.576
			Neither	23	2.84	.633
			Agree	51	2.86	.621
			Total	108	2.84	.605
Liberal Visual Meme B	1.25	.292	Disagree	15	3.03	.784
			Neither	17	3.41	.599
			Agree	76	3.22	.672
			Total	108	3.41	.679
Liberal Visual Meme C	5.54	.005	Disagree**	33	2.58	.470
			Neither†	18	3.10	.654
			Agree	57	2.93	.618
			Total	108	2.85	.608
Cons. Visual Meme A	2.90	.061	Disagree	36	3.19	.796
			Neither	28	3.66	.764
			Agree	15	3.50	.845
			Total	79	3.41	.813
Cons. Visual Meme B	4.22	.018	Disagree	27	2.74	.729
			Neither†	11	3.43	.799
			Agree	49	3.01	.596
			Total	79	2.97	.700

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Cons. Visual Meme C	3.54	.034	Disagree	17	2.56	.803
			Neither†‡*	10	3.23	.862
			Agree	52	2.67	.570
			Total	79	2.72	.686
Liberal Text Meme A	5.04	.008	Disagree	31	2.73	.739
			Neither†**	27	3.25	.707
			Agree	46	2.74	.710
			Total	104	2.87	.745
Liberal Text Meme B	4.48	.014	Disagree	7	2.68	.826
			Neither†‡*	20	3.54	.736
			Agree	77	3.05	.767
			Total	104	3.12	.791
Liberal Text Meme C	1.82	.167	Disagree	29	2.62	.600
			Neither	26	2.94	.644
			Agree	49	2.71	.637
			Total	104	2.74	.634
Cons. Text Meme A	1.99	.142	Disagree	49	3.33	.759
			Neither	45	3.56	.665
			Agree	18	3.21	.643
			Total	112	3.40	.711
Cons. Text Meme B	.009	.991	Disagree	38	2.86	.739
			Neither	18	2.85	.841
			Agree	56	2.84	.521
			Total	112	2.85	.652
Cons. Text Meme C	.591	.556	Disagree	31	2.44	.843
			Neither	11	2.70	.445
			Agree	71	2.49	.648
			Total	113	2.50	.690

* Difference between those who disagree and those who agree is significant at the .01 level.

** Difference between those who neither agree nor disagree and those who agree is significant at the .01 level.

† Difference between those who neither agree nor disagree and those who disagree is significant at the .01 level.

‡ Difference between those who neither agree nor disagree and those who disagree is significant at the .05 level.

* Difference between those who neither agree nor disagree and those who agree is significant at the .05 level.

** Difference between those who disagree and those who agree is significant at the .05 level.

Funniness and persuasiveness

Table 22. One-way ANOVA for message effectiveness by meme and funniness

	<i>F</i>	<i>p</i>	Funny/Not	<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	23.39	.000	Not Funny	36	2.33	.946
			Funny	52	3.29	.886
Liberal Visual Meme B	18.53	.000	Not Funny	25	2.09	1.01
			Funny	64	3.07	.941
Liberal Visual Meme C	42.84	.000	Not Funny	28	1.95	1.08
			Funny	62	3.37	.887
Cons. Visual Meme A	21.50	.000	Not Funny	40	1.78	.698
			Funny	24	2.64	.761
Cons. Visual Meme B	70.87	.000	Not Funny	29	1.72	.564
			Funny	43	3.27	.871
Cons. Visual Meme C	43.56	.000	Not Funny	26	2.27	.849
			Funny	44	3.73	.921
Liberal Text Meme A	11.88	.001	Not Funny	26	2.26	1.21
			Funny	56	3.11	.952
Liberal Text Meme B	8.41	.005	Not Funny	31	2.42	.989
			Funny	50	2.99	.781
Liberal Text Meme C	16.91	.000	Not Funny	21	2.00	1.18
			Funny	59	3.16	1.08
Cons. Text Meme A	19.49	.000	Not Funny	47	1.64	.735
			Funny	42	2.44	.981
Cons. Text Meme B	47.36	.000	Not Funny	41	2.02	.900
			Funny	51	3.38	.978
Cons. Text Meme C	35.77	.000	Not Funny	43	2.34	1.21
			Funny	50	3.68	.952

Table 23. One way ANOVA for argument scrutiny by meme and funniness

	<i>F</i>	<i>p</i>	Funny/Not	<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	26.27	.000	Not Funny	36	3.70	.647
			Funny	52	2.88	.793
Liberal Visual Meme B	16.72	.000	Not Funny	25	3.34	.921
			Funny	64	2.57	.751
Liberal Visual Meme C	27.88	.000	Not Funny	28	3.69	.862
			Funny	62	2.77	.715
Cons. Visual Meme A	13.05	.001	Not Funny	40	4.02	.587
			Funny	24	3.44	.681
Cons. Visual Meme B	65.69	.000	Not Funny	29	4.15	.502
			Funny	43	2.97	.667
Cons. Visual Meme C	63.47	.000	Not Funny	26	3.80	.678
			Funny	44	2.52	.628
Liberal Text Meme A	10.47	.002	Not Funny	26	3.71	1.08
			Funny	56	3.08	.686
Liberal Text Meme B	4.23	.043	Not Funny	31	3.07	.610
			Funny	50	2.76	.713
Liberal Text Meme C	24.60	.000	Not Funny	21	3.89	.934
			Funny	59	2.87	.763
Cons. Text Meme A	20.16	.000	Not Funny	47	3.92	.649
			Funny	42	3.23	.811
Cons. Text Meme B	47.04	.000	Not Funny	41	4.01	.814
			Funny	51	2.89	.756
Cons. Text Meme C	14.80	.000	Not Funny	43	3.38	.880
			Funny	50	2.71	.799

Table 24. One-way ANOVA for message discounting by meme and funniness

	<i>F</i>	<i>p</i>	Agree/Disagree	<i>n</i>	<i>M</i>	<i>SD</i>
Liberal Visual Meme A	1.29	.259	Not Funny	36	2.76	.638
			Funny	52	2.91	.586
Liberal Visual Meme B	.015	.903	Not Funny	25	3.25	.851
			Funny	64	3.27	.600
Liberal Visual Meme C	5.07	.027	Not Funny	28	2.64	.651
			Funny	62	2.97	.637
Cons. Visual Meme A	1.25	.269	Not Funny	40	3.27	.817
			Funny	24	3.50	.777
Cons. Visual Meme B	.69	.408	Not Funny	29	2.85	.905
			Funny	43	2.99	.527
Cons. Visual Meme C	.03	.857	Not Funny	26	2.70	.843
			Funny	44	3.73	.589
Liberal Text Meme A	4.08	.047	Not Funny	26	2.64	.846
			Funny	56	2.99	.660
Liberal Text Meme B	1.87	.176	Not Funny	31	2.98	.940
			Funny	50	3.25	.794
Liberal Text Meme C	.471	.494	Not Funny	21	2.61	.709
			Funny	59	2.72	.629
Cons. Text Meme A	1.04	.310	Not Funny	47	3.35	.656
			Funny	42	3.51	.822
Cons. Text Meme B	3.12	.081	Not Funny	41	2.71	.733
			Funny	51	2.96	.616
Cons. Text Meme C	5.84	.018	Not Funny	43	2.28	.821
			Funny	50	2.64	.592