THE RELATIONSHIP OF EMOTIONAL LANGUAGE ON VIEWER SHARES WITHIN ONLINE NEWS PLATFORMS

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บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
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ความสัมพันธ์ของภาษาเชิงอารมณ์ต่อการแชร์ข้อมูลบนแพลตฟอร์มข่าวออนไลน์

นายสุทธิชาติ เด่นพฤกษ์ธรรม

จุฬาลงกรณ์มหาวิทยาลัย
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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญานิเทศศาสตรมหาบัณฑิต
สาขาวิชาการจัดการการสื่อสารเชิงกลยุทธ์
คณะนิเทศศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2558
ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

หัวข้อวิทยานิพนธ์	ความสัมพันธ์ของภาษาเชิงอารมณ์ต่อการแชร์ข้อมูลบนแพลตฟอร์มข่าวออนไลน์
โดย	นายสุทธิชาติ เด่นพฤกษ์ธรรม
สาขาวิชา	การจัดการการสื่อสารเชิงกลยุทธ์
อาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก	พาเวล สลัซกี้

คณะนิเทศศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย อนุมัติให้นับวิทยานิพนธ์ฉบับนี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญามหาบัณฑิต

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สุทธิชาติ เด่นพฤกษ์ธรรม : ความสัมพันธ์ของภาษาเชิงอารมณ์ต่อการแชร์ข้อมูลบนแพลตฟอร์มข่าวออนไลน์ (THE RELATIONSHIP OF EMOTIONAL LANGUAGE ON VIEWER SHARES WITHIN ONLINE NEWS PLATFORMS) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: พาเวล สลัซกี้, 138 หน้า.

งานวิจัยนี้ต้องการทดสอบสมมุติฐานที่ว่าภาษาเชิงอารมณ์จะส่งผลต่อการแชร์เนื้อหาบนแพลตฟอร์มข่าวออนไลน์ โดยใช้โปรแกรมวิเคราะห์ภาษา (LIWC) เพื่อระบุอารมณ์ในข่าวห้าอันดับแรกที่มีคนแชร์มากที่สุดบนเว็บไซต์ New York Times (จำนวนข่าว N = 71) โดยใช้ตัวแปรภาษาเชิงอารมณ์ทั้งหมด 5 ตัว ประกอบด้วย ความโกรธ, ความกังวล, ความขยะแขยง, และ ความรู้สึกเชิงบวก รูปแบบการแชร์เนื้อหาจะได้รับการวัดด้วยตัวแปรสี่ตัวนั่นคือ ตัวแปรความนิยม ตัวแปรความต่อเนื่อง ตัวแปรความเคลื่อนไหว และ ตัวแปรแนวเส้นตรง ตัวแปรความนิยมจะคำนวณจากค่าเฉลี่ยของอันดับการแชร์ ลักษณะการโค้งเบ้ (เทรดการแชร์เพิ่มมากขึ้นตามระยะเวลา) และ ลักษณะความโด่ง ตัวแปรความต่อเนื่องคำนวณจาก N (จำนวนชั่วโมงที่เนื้อหาอยู่บนรายการห้าอันดับแรก) ค่าเบี่ยงเบนมาตรฐานของอันดับ และ midimax (ลักษณะพาราโบล่าคว่ำ) ตัวแปรความเคลื่อนไหวคำนวณจาก midimin (ลักษณะพาราโบล่าหงาย) และ ลักษณะสมการกำลังสาม (มีทั้งลักษณะพาราโบล่าคว่ำและหงาย) ตัวแปรแนวเส้นตรง (อัตราความเปลี่ยนแปลง) คำนวณจาก ความชันของสมการแนวเส้นตรง (ความยาวและความสูง) ตัวแปรทั้งสี่ตัวนี้จะถูกนำมาใช้ในการคำนวณหาความสัมพันธ์กับตัวแปรภาษาเชิงอารมณ์

งานวิจัยนี้พบว่าอารมณ์เชิงบวกมีความสัมพันธ์กับตัวแปรความนิยมและตัวแปรแนวเส้นตรง ในขณะที่อารมณ์เชิงลบที่มีความตื่นเต้นทั้งสามอารมณ์ (ความโกรธ, ความกังวล, ความขยะแขยง) ให้ผลลัพธ์ที่แตกต่างกันออกไปโดย ความโกรธ, ความกังวล มีความสัมพันธ์ต่อตัวแปรความเคลื่อนไหว ในขณะที่ความขยะแขยงมีความสัมพันธ์กับตัวแปรความนิยม และความเศร้าไม่มีความสัมพันธ์กับตัวแปรใดๆ

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สาขาวิชา การจัดการการสื่อสารเชิงกลยุทธ์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2558 ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

5785015528 : MAJOR STRATEGIC COMMUNICATION MANAGEMENT
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SUTTICHART DENPRUEKTHAM: THE RELATIONSHIP OF EMOTIONAL LANGUAGE ON VIEWER SHARES WITHIN ONLINE NEWS PLATFORMS. ADVISOR: PAVEL SLUTSKY, 138 pp.

This research tests the hypothesis that emotional language drives viewer sharing of online content within news platforms. Text analysis software (LIWC) will be used to analyze the emotion aspects of the top 5 (weekly), most shared, online articles (N = 71) published on the New York Times website. Five emotion language markers will be used as predictors: anger, anxiety, sadness, disgust, and positive emotions. Viewer sharing will be tracked with four measures of top-five ranking: popularity, sustaining, bouncing and linearity. Popularity will be measured with three indicators of sharing: mean ranking, positive skew of ranking (upward trend), and kurtosis of ranking (surging). Sustaining is indicated by the N (number of hours the articles appear on top-five ranking) standard deviation of the ranking, and midimax (upward parabolic function shape). Bouncing is indicated by midimin (downward parabolic) and cubic function shape. Linear is indicated by linearity (rate of change) itself which is the rise and run shape of the chart. These four measures of viewer sharing will be regressed on the five emotional language markers.

The result indicated that positive emotion correlate with popularity and linear measure. Anger and anxiety significantly correlate with bouncing, while disgust, with popularity. Sadness does not found to be correlated with any of the measures

Field of Study: Strategic Communication Management Student's Signature .....
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CHAPTER 1 - INTRODUCTION AND BACKGROUND

1.1 Background and Scope

With the advanced development of the Internet and telecommunication technology, societies throughout the world are increasingly interconnected through web-based interactive platforms, such as social media and Web 2.0. In other words, this advancement allows us to experience the unusual transferring stage of communication powers and authorities, which the information can be circulated widely from one individual to another instead of Mass media organizations. This phenomenon is known as “the virality” in social media.

The term “virality” in social media was commonly described as a stage, which the Internet users can create, share, consume information and add value to the online content available (Tapscott and Williams, 2007). Thus, it can be seen that the virality can be important for many companies in launching or promoting their products. However, it is surprising that there is still no clear explanation why some contents were extensively shared, while some were not.

The research was conducted using an empirical approach to address this question. The focus is on the specific emotional variables, based on the context of dimensional core affect theories that were empirically tested and compatible with cross-cultural analysis. This study uses online newspaper platforms, particularly the New York Time, as the sample. In addition, the share-ability of these online contents will be acted as approximate analogy to the virality.

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Social media’s virality and share-ability?

Social media is one of the most interesting platforms in modern age communication. It has transformed corporate communication practices by allowing media professionals to reach a far larger audience than in the past with much less resources usage.

One of the most important characteristics of social media is the virality. The term "virality" is often referred to the massive chains of online sharing from one individual to another, which is similar to the old concept of the "word- of-mouth". However, the main difference is that the viral information can be spread wider, as it was amplified by the use of modern age technology.

Nevertheless, the effectiveness of social media is rather difficult to measure. A complex network of software is required in order to track the chains of sharing including other methods, for instance, click-through ratio. For this research study, the researcher considered using the **share-ability** to represent the viral phenomenon instead of others, due to the limited resources and the feasibilities.

What is the Virality?

The term 'viral marketing' was first coined by the firm Draper Fisher Jurvetson in 1997 to describe the Hotmail's advertisement for promoting its free email service (Beeler, 2000). However, this definition certainly does not capture the essence of today viral phenomenon that has been the key to the success of many marketing campaign (Mills, 2012).

The term "virality" in modern day context is obviously related closely to social media itself, one that is recently discussed is Facebook (Borge-Holthoefer, Baños, González-Bailón, and Moreno, 2013), Web 2.0 such as YouTube, and various prominent blog sites. Although there are some differences in their platform usages, the concept is still comparable across all sectors.

The virality in online social media often begins with an individual, who actively shares online contents within their own networks. Subsequently, the contents will be acknowledged and shared by the members of the particular network. The sharing of these contents generally takes place inside the group and finally reaches the extensive publicity through the interaction of people in different networks. There is a research study, which compared the concept of the virality in social media to the biological infection called "Virus". This is because the spreading of contagious Virus can be expanded rapidly and successively (Mills, 2012).

Nonetheless, this analogy is not entirely correct, as the spreading process of biological infection is spontaneous, while the virality in social network requires the host consent and needs even greater effort to make a particular content goes viral. With the above context in mind, the aim of this study is to indicate the tendency of a certain content going viral in relation to the increment in number of people within a particular network.

In this regard, it is fairly true to some extent for assuming that the virality in social media shares a similar pattern to the spreading process of biological infection, as the movement of an infected host can be tracked and the potential area of infection can be predicted. In fact, this concept of biological infection analogy is further extended to the point that an epidemic prediction model can be modified to predict the content's virality in social media (Borge-Holthoefer et al. 2013). Thus, this statement is fairly acceptable as the virality also relies on human network carrying the specific contents to spread in a larger society. Besides, the similar conclusion is also found in the field of computer networking and data science. The conclusion took the content's virality as one part of human's cascading behavior, which is a behavior of people who tend to follow the behavior of a majority of people in the society. Thus, with a larger information exposure and lesser restriction to geographical and cultural boundaries, the better data can be provided for building more informative models of the social interactions' effect (Borge-Holthoefer et al. 2013).

Therefore, with several evidences from the empirical studies of the virality in social media's nature, this research paper would simply define the "virality" in social media as an online phenomenon, which a particular content is shared and re-shared by a number of people in multiple social networks, resulting in the amplification of information exposed in public. In other words, it is an up-to-date version of the classic word-of-mouths' concept, being amplified by modern age connectivity, such as social network and the Internet. In addition, the products, which are the intellectual products in particular, are extensively distributed with the "mouths" through the online social network.

What is Share-ability?

"Share-ability" is a sociolinguistic concept, which was mentioned in many researches as a vital part of the virality. Varis and Blommaert (2014) suggest that Share-ability is a moment, in which sharable characteristics in certain content are recognized in the concept of indexical order and finally becomes the source of virality. According to the operational concept used in this research paper, the term "share-ability" would be *"the ability to generate shares"*. Unlike the classical concept of virality, share-ability used in this paper will not be included in if the contents are continuously shared from individual to individual. However, the contents will be taken into account if they can stimulate a considerable amount of shares in networks. Additionally, "Where" and "how" the contents were shared, would be considered as "not important" issues under this definition.

The term "share-ability" is commonly used in numerous researches. It is not a concept, which was only mentioned in this paper. To clarify, there are many scholars who also discuss about the concept of share-ability and its nature. The examples of the topic discussed are the potential of the content, which is more likely to be shared and what would be considered as "share-ability" (Williams and Chinn, 2010). Kammer (2013) also stated that there was the similar explanation revealing that the share-ability does not only limit to online platforms, but also involved in the physical platform that allow the act of sharing to occur. Furthermore, any systems, interfaces or devices that could support, co-present or share the interactions can be considered as the platform of share-ability. For example, the camera with a large display and interactive game boards are also included (Hornecker et al., 2007).

Why Share-ability is Chosen

The term "share-ability" was chosen as an operational definition due to the lack of the data accessing capability and the indication of true virality. In practical sense, this definition still lacks of several desirable characteristics of true virality, such

as the elements of trust, which occurred when the contents were shared from non-commercial parties. However, the virality is generally measured by number of shares in network. For example, Blog X is considered a success because they received X million number of shares within Y period of time. Furthermore, share-ability is also one of the most visible aspects of virality, for example, when we want to identify whether the articles we read is popular, number of shares is considered to be a good measure of the articles' popularity and indication of virality.

According to the above statement, it can be seen that share-ability holds a strong position of measuring the virality's effectiveness as it can indicate both the magnitude of virality and the potential factors, which accelerate the phenomenon.

Another practical example of this approach is The New York Times. As its total number of shares via social network is not available, the secondary and tertiary sharing via users' own social network, such as Facebook, Instagram and Twitter, could not be measured; therefore, its share-ability can only be measured by considering top 25 emailed articles that were shared by readers instead. However, as previously mentioned, the primary sharing mechanism will be used to measure the success of viral campaign and the virality's effectiveness.

Therefore, the main reason why the share-ability is chosen in this study is that it is one of the most appropriate methods for measuring and indicating the true virality in social media.

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Online news platforms

This study uses the content within the online news platform as a study sample. The online news platform refers to the news website, such as the *international.nytimes.com* (New York Times website) in this type of platform mostly contains news, and interesting articles, which cover wide ranges of topics, such as politics, economics, lifestyle and technology.

This research study chooses New York Times website as a sample in this study because the website displays the rank of the most shared email articles regularly and the information is always updated on 24 days, 7 days, and 30 days

basis. Additionally, the rank of articles in the list was used to determine the degree of share-ability in each article. The study will focus mainly on the list of the most shared email articles in 7 days.

Most shared email VS. Most liked email

Sharing is an essential part of the virality and it is more powerful than liking on social media. The most "shared" email is considered to better represent the virality than the most "liked" articles, as the most liked articles only show an individual's satisfaction, which does not link to the act of sharing.

What are the specific emotional variables?

This paper used emotional languages as key to predict the share-ability Emotion variables, which based on the concept of core affect, are referred to the specific variables formed out of emotional languages. Also, core affect is a neurophysiological state characterized along two dimensions. It is simply defined as the elementary feeling of pleasure-displeasure and activation-deactivation. In addition, this concept will be further discussed in the next section.

Why do people use emotional languages?

In many researches, emotion is not considered as a significant factor related to social media share-ability. According to the research finding, share-ability is defined as an unintentional phenomenon, which is unpredictable and do not relate to emotional factors. Nevertheless, there are sufficient evidences to argue that there is a relationship between the process of communication and emotion. (Asch, 1956; Katz and Lazarsfeld, 1955). For instance, interpersonal communication can affect attitude as well as the process of decision-making. Therefore, word-of-mouth does not only increase product's creditability, but also enhances the emotion experience of customers (Anderson, 1998).

The role of core affect

The “two-dimensional affective” models namely, “The core affect” is used to create the emotional variables. Unlike emotion, affect or feeling does not rely on the conscious interpretation of psychological condition. Therefore, it provides more reliable measurements across social context and culture. Furthermore, the feeling with more complexity, such as “nostalgia”, might not exist in every culture; however, the feeling of “discomfort” is more commonly used everywhere across the cultures. In addition, this concept will be discussed in more detail in Chapter 2.

Furthermore, according to Berger and Milkman (2012), the two dimensions affective model was also adopted in the similar experiment of Berger and Milkman (2012). The experiment relied on the likelihood of the articles, which appeared on the list of New York Times’ most shared emails. The solid result of the research was discovered by analyzing the entire content of New York Times website.

What are emotional variables and core affect?

The following five emotional variables were created for this study - Positive Emotion, Anger, Anxiety, Disgust, and Sadness. These fives variables were classified based on the two dimensional models of activation and valence.

Valence is the pleasure and displeasure in the aspect of emotion, while activation relies on arousal and drowsiness. According to Barrett and Russell 1998, the term activation is defined as “ a continuum ranging from deep sleep at the low end, to the states of drowsiness, relaxation, alertness, hyper activation, and finally, frenetic excitement at the high end”. In addition, anger and anxiety were considered to be a negative activating emotion and are portrayed by conditions of heightened activation and action. Meanwhile, sadness is conceived to be a negative deactivating emotion and is portrayed by low arousal or deactivation.

Furthermore, the understanding of emotional activation is also mentioned in the neurological study. The study indicates that, when a piece of information is perceived through our sensory motor, and entered the state of activation, they can

continue to reverberate longer and spread through the entire mental function (Dehaene,—Changeux, Naccache, Sackur, & Sergent, 2006). Without the stage of activation, although the information is perceived, it will be limited to only the sensory processing, and finally it will slip into the subconscious mind and may have been forgotten.

Why core affect is essential?

The concept of "two-dimensional affective", composing of the "positive-negative" and "activating-deactivating" stage of emotion, is highly relevant to the concept of share-ability and virality. Various findings indicated that people tend to share the content that make them feel emotionally charged in order to enhance their experiences, reduce the dissonance and strengthen their social connections (Morris, 2012; Peters, Vastfjall et al., 2006; Rime et al., 1991).

Furthermore, individuals who share content might do it for the sake of reciprocity (Fehr, Kirchsteiger, & Riedl, 1998). Thus, the process of sharing content online might be allocated as one form of social interactions. Moreover, the contents, which are more interesting or be able to create the enjoyable experience to the users, are more likely to be shared compared to those, which are not. Besides, most people tend to prefer being a person, who shares an upbeat story that make others feel good rather than the one sharing negative story that make the readers feel upset. Thus, it is obvious that the correlation between activating emotions and the virality in social media is also found (Berger and Milkman, 2012).

According to theoretical perspectives, this is the reason why these specific emotional variables have a significant effect on the sharing behavior of the Internet users. Therefore, the core affect is considered to be a suitable and accurate measurement for the emotional and linguistic contexts.

1 – 2 Significant of social media and virality

According to current marketing and communication perspective, social media share-ability and virality have tremendous influence on the perception and practice of professional in this field. Prior to the emergence of the Internet and the advent of social media, the uses of mass communication were prominent. Mass communication was a one-way and top-down method from communicator to audience through mass media platform and its goal is to transmit the message to as many audiences as possible.

According to Mills (2012), the concept of consumer-to-consumer communication has become more and more important for both consumers and companies in numerous industries. With this concept, consumers are now able to criticize products and share their opinions with others easily. Thus, they tend to become more sociable via online channels, since they participate in many kinds of activities, ranging from reading online contents to sharing their experiences, knowledge, and opinions online. For example, Sony benefited greatly from JK couple's creative wedding dance video clip that was filmed and posted on YouTube channel (Deighton and Kornfeld, 2010). The explosive popularity of JK Wedding Dance, which used Sony music owned song called "Forever" by Chris Brown as their background music, generated over 3.5 million views in the first 48 hours. This resulted in a large number of audiences associated Brown with humor leading to a positive contribution towards his music (Mills, 2012).

Another useful example is the case study of ""United Breaks Guitars". The United Airlines made a big mistake as the baggage handlers carelessly broke the prized guitar of one customer named Dave Carroll (Deighton and Kornfed 2010). After the incident, the brand lost its brand equity as it failed to compensate Carroll's loss. Consequently, this pushed him into recording a song called 'United Breaks Guitars' and he posted it on YouTube. In only 48 hours, it had over 1.6 million viewers, and went up to more than 4.6 million viewers within a month. This made the video become YouTube's top rated music video of all time, making it become great media's attention. In addition, CNN also discussed about the video and this made

the United's stock price drop by 10%, costing the shareholders to lose about 180 million dollar.

Apart from marketing and public relations fields, politics was also impacted by viral communication. An explicit example of this is the campaign created by the president of the United States, Barak Obama. The campaign contained nearly 200,000 videos on the YouTube channel with over 110 million views (Mills, 2012). This led to an increasing positive attitude and rating towards President Obama. Another good example of this is the case study of Senator of the Philippines named Francis Pangilinan. Francis was one the most popular candidates despite the fact that at first, his ranking was the 22nd out of all candidates. This was a huge success considering the fact that he was the first independent senator of the Philippines. Furthermore, in 2014 there were many Thai celebrities who used social media as a tool to insult about the policy of the Thaksinian politicians, such as Yingluck Shinawatra. Many hate speeches were used and further spread the conflicts widely in cyber world. This action finally led to the rebellion against the democratic government (Jarach, 2014).

According to these examples, we could see that social media and virality have a significant impact on several different fields, resulting in either negative or positive outcome.

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How social media affects online landscape?

Nowadays, the significant contributions of social media to the landscape of the modern media gradually make the traditional media become obsolete. For example, the concept of originality and exclusivity, which used to be highly valued by publishers are now become less important in the age of the social media.

According to MacBride (2012), Originality had been most frequently discussed issues among the professional journalists as lacking of originality was perceived as a moral hazard. However, the advent of social media makes this issue become more serious. For instance, the BBC news editing process takes time for few days to create a storyline, edit the features and distribute the content through the traditional

media, but Facebook and smart phone applications upload online contents in real time, which put a huge pressure on the traditional media. To this end, many news reports in traditional media have taken the contents from social media. Therefore, due to these reasons, the demand for the originality began to rise sharply, as it is considered to be necessary in the fast-pace nature of online content. In addition, exclusivity is another issue to concerned as it is difficult for the publishers to perfectly control over what they post on the Internet. For example, the rare picture, which the owner might not want to share or publish it, can be spread out quickly through online channel, though the original publisher did not want it to happen. Another good example of this is the wedding video of Shannon and Seema, lesbian couple, whose wedding video has become online top hit in 2013. Due to the conservative attitude on the same-sex marriage in India, the couple wants their wedding to be a private affair. However, the video of their wedding ceremony was eventually uploaded on the Internet and quickly became viral. Fortunately, the video received an overwhelming positive feedback from around the world (SHROFF, 2014).

According to these evidences, it is obvious that the rules in the media industry have changed. The rules of originality and exclusivity are not effective nowadays. Therefore, the researcher believes that the understanding of how to create interesting news in social media would be highly useful for the whole media industry

Benefit of studying social media phenomenon

Globalization has become a trend at the present time. Many corporations and industries are increasingly expanding their business towards overseas markets. One of the major challenges that every international organization has to cope with is, to communicate effectively with their overseas customers. Some of them choose to tailor the messages in order to attract their target, while others choose to persist with their ultimate message and use it to communicate with their new target. In both cases, the understanding of social functions, which included social media,

globalization, and the new sense of interconnected national identities, becomes more and more important for any person, who seeks to gain the benefits from current global market.

Is the media industry considered to be a threat or blessing?

One of the industries, which is considered to be threatened and receive benefits from the age of the Internet the most, is perhaps the media industry. As in the age of the Internet and social media, there are significant benefits of the traditional media business. For example, seven newspaper corporations is publicly traded in the stock market in the United states, which included Gannett, E.W. Scripps, The New York Times Co., A.H. Belo, Journal Communications, McClatchy, and Lee Enterprises. In addition, there is a decrease in the revenue for more than 50 percent from 50 billion dollars in 2005 to 20 billion dollars in 2014.

In contrast, the online platforms are growing constantly and even outperform the traditional media. For example, The New York Times website can attract over 50 million online visitors in 2015, while their weekday printed can attract only 650,000 in the same year. However, this figure is not always accurate, as the similar study also reports that people only spend less than 4 minutes on the webpage. Thus, this indicates that they were not there to read an article. Yet, this event did demonstrate the potential benefits of the Internet on the future of business (BARTHEL, 2015).

The growing importance of online audiences

Online audiences have clearly become more important to the news media in these days as they especially overseas audiences have now become a majority reader. For instance, the BBC company, where almost 71 percent of their readers are from outside Europe. Apart from that, at least 35 percent of them are from non-English speaker regions ("BBC World News: Reach and advertising audience, 2015," 2015). In addition, there are many new generation media companies, which mainly focus on the Internet platforms. The examples of these companies are the HuffingtonPost.com, the Buzzfeed.com, and the BleacherReport.com. These digital

native news corporations can outperform many competitors, as they have many online visitors for their website (Olmstead and Shearer, 2015). According to Pew Research Center, (2015), The HuffingtoPost.com has equal number of readers as the CNN News Network. Furthermore, the number of people reading Buzzfeed.com is superior to those of the New York Times and the USAtoday.com, which ranked the second and the first in the study.

According to this information, it can be seen that the overseas market should not be ignored and it will certainly become the future of media business. The company, which manages to seize this presented opportunity, will be able to take full advantages and become more successful. Just as what Rupert Murdoch, the owner of Sunday Times and the News of the World, used to say that "the classified advertising revenue is a rivers of gold" (Plunkett, 2005). Thus, as the rivers dried up, the fish must take whatever they can to be survived.

Basing on this statement, the adoption, usage and also the interpretation of virality in social media have become mandatory for most businesses. Although companies' knowledge of virality is important, the interpretation of the emotion occurred in virality is also compulsory. This is because the knowledge alone cannot enable the company to fully control the virality's effect. Thus, the understanding of emotion in viral content will certainly reduce risks and increase the success rates of company's campaign.

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From this study's point of view

The researcher believes that the best way to study the nature of social media is to focus not only on a particular case study, but also on the factors that can be generalized and applied throughout sectors. It can be seen from the previous case studies that social media has significant impact on the news businesses. Thus, knowledge gained from the study of this particular case can be limited to other industries. Therefore, the author would like to focus on more general aspects that could be useful to any industry, which would like to increase the effectiveness of their social media communication and viral campaign.

Therefore, the purpose of this study is to understand the emotional variables, which are deeply buried in human biology. Obviously, the affective psychology has become the ideal variable for this objective. Therefore, in order to maximize the utility of the valuable empirical findings from the previous studies, the impacts of cultural and linguistic barrier on human's mental interpretation should be investigated. With the study of the mentioned variables, not only the cliché questions, which are frequently asked, will be addressed, but the questions about the concept of emotion and affection, which can be practically useful for predicting collective human behavior, will also be discussed in deeper aspects.

The finding of the research could be useful even across different linguistic and cultural context. Therefore, although the study is conducted by using the United States' based material; it can be useful in Thai cultural context as well.

Different cultures may use different languages; however, the concept of affect and basic emotion is universal. Therefore, the understanding of how and why people react towards specific emotions allows companies to better understand and engage with their readers.

1 – 3 Research methodology, Research questions, and Research objectives

The aim of this research is to examine the impacts of the affects, which are activation and valence, on the degree of social media share-ability. The following objectives have been designed to achieve this aim;

Objectives

1. To investigate the different impacts of individual emotional languages on share-ability
2. To investigate the aspects of core affect in emotional languages on share-ability

Research Questions

RQ1 Do valence aspects of emotional languages affect the share-ability of content?

RQ2 Do activation aspects of emotional language affect the share-ability of content?

Scope of Study

This study adopts the quantitative approach to study the nature of share-ability. Individuals' emotional languages found in online news platform were analyzed with correlation analysis, which is used to determine their relationship with share-ability.

The data collection takes place every hour for the period of 61 days using automatic data collection procedure. The New York Time's top 5 list of most shared email articles (7 days) was chosen as our online news platform. The collected data included the name of the articles, the ranks in the most shared email list, the full text content of articles and the date of collection. In addition, the full text content consists only the word-based content, description of the photographic illustration, name of the article, and topic. The rest of the content, such as advertisement and the picture itself were removed before the analysis process.

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Operational Definitions

Share-ability = Ability to generate shares

Virality = A condition, where shares are voluntarily and willingly generated by people in multiple online network

Affect = Feeling, based on biological impulse. Affect took place without conscious recognition.

Emotion = Conscious interpretation of affect into recognizable concept of feeling.

Emotional Language = Emotion or affect affinity in words or sentences

Emotional Variables = Variables formed from emotional languages.

CHAPTER 2 - LITERATURE REVIEW

2 - 1 Theoretical Framework

The general concept of this paper relies on the assumption, in which an involuntary emotional reaction is viewed as a reliable method to predict human behavior because the human involuntary response is uncontrollable; thus, it must be reliable and consistent among all individuals. For instance, it is more reasonable to claim that people tend to avoid pain and seek for pleasure than to refer that people prefer white over black color. Regarding to the reason mentioned above, The author believes that by analyzing the affective clues retrieved from the highly shared online newspaper, it would lead to the better understanding of an emotional effect on viral behavior mainly emphasizing on online sharing.

This paper particularly relies on psychological key concepts, which are formed by Russel and Barette (1999), such as core affect, attribute affect, and prototype of emotion to select the emotion variable based on the affect or the feeling that responds more directly to a human physical function than an emotion. Moreover, Russel and Barrette (1999) established a circumflex of the emotional variable, which is directly based on the dimensions, such as arousal and pleasure (involuntary action); therefore, many of these variables were used in the data analysis of this study. The link between neural activation (Dehaene et al., 2006) and positivity (Lang, 1995) was examined in the previous studies. Furthermore, the empirical research of Berger and Milkman (2012) reviewed the effects of some of these affective variables.

In this chapter, these psychological concepts and theories will be employed as the study basis and will be discussed in more detail.

2 – 2 Language, Emotion and Emotional language as the Potential Factors Behind Share-ability (Pennebaker Emotional Language)

Linguistic element is known to have tremendous impacts on people's wellbeing and emotion since words can reflect a person's psychological state. For

example, it is said that the person using the first person singular pronouns, which are I, me, my, is less likely to have a healthy mind rather than that using plural pronouns, which are we, our, they. A conservative and formal writing style does not normally contain many first person singular pronouns, but the articles using such a word might be perceived as cold, detached and arrogant.

Formality is also linked to with the status and power, yet less self-reflection. People, who adopt formal writing style, tend to be more mentally healthy and consume less alcohol and tobacco, but they might be perceived as less honest. Also, Pennebaker (2011) stated that people are more likely to use a formal writing style when they get older.

The term 'emotional language' used in this study refers to the type of word that reflects users' emotional wellbeing state in the specific emotion category that they intend to convey. The emotional language was categorized and developed by linguistic experts and automatically classified by the LIWC software. Language could affect the perception of text through its direct interaction with human emotion. The theoretical concept employed by Pennebaker, as well as other studies confirmed these effects as described below.

Pennebaker divided words into two main categories as following: content word and function words. Content words are usually nouns, verbs, adjectives and adverbs, which carry the meaning of a sentence, telling what, where, when, and how the subject is done. Function words, on the other hand, are used as supporting roles in a sentence, such as connecting and shaping the content words in order to make the sentence grammatically correct. In fact, words are primarily contributed to the style of writing and are useful for revealing the state of psychology.

Therefore, processing words required a specific function of the brain. The damaged brain would greatly affect people's language abilities. For example, if the BROCA area of the brain were damaged, it would impact person's communication ability. The content would be stated without any conjunction to connect the words together, making it unable to understand.

Meanwhile, the patients affected from the damage in Wernicke's area would not be able to describe the appearance of the objects they see. For example, if the

patients saw the girl in yellow dress standing behind the door, they would only state that there was a girl standing, without describing her physical appearance. Thus, these phenomena are some of the evidences that suggest the solid relationship between words and human psychological state.

Furthermore, Pennebecker and other researchers pointed out the linguistic impacts on a romantic relationship (Chung & Pennebaker, 2014; Ireland et al., 2011). The 2011 study The study of Ireland et al. (2011) revealed the empirical evidences showing that the use of language style matching (LSM) or the similarity in dyads' use of function words could predict romantic relationship outcomes. The result presented the increased probability of romantic relationship, which could be a stable relationship in three-month period.

In addition, similar relationship was observed from one experiment, which demonstrated the language ability to induce an emotion (Chwilla, Virgillito, & Vissers, 2011). The assumption was derived from the fact that an affect or mood, which is the core concept of basic emotion, is relatively significant to language. Also, the language could be meaningful because it is grounded in perception, action, and emotion, which could affect the use of language as related to an internal body function.

Another study regarding to the use of event-related brain potentials (ERP) also demonstrated the effect of an emotion on language processing at syntax and semantic level. ERP analysis indicated that the emotional valence of a word could have an effect on people's impression of syntactical correctness, in which the positive emotion decreased the activation tendency of neural system whereas the negative one increases them. On the other hand, although the semantic was shown to have less effect, the valence still affected participants' ability to perceive semantic correction out of the unclear context (Martín-Loeches et al., 2012).

Moreover, the study using both EPP and ERP analysis also revealed the similar result, in which the positive mood affected referential anticipation on verb-based expectation on sentences, whereas the negative emotion was not linked to the context anticipation but it only prevented the readers from using the information in

the way that can predict an upcoming reference (Van Berkum, De Goede, Van Alphen, Mulder, & Kerstholt, 2013).

In many research studies, it was found that a mood or an affect also has an effect on language comprehension. The study utilized functional magnetic resonance imaging to study the effect of mood on people's ability to comprehend consistent and inconsistent story endings, focusing on brain regions which linked to two inconsistent detection (stronger responses to inconsistent endings) and fluent processing (stronger responses to consistent endings). Besides, the study shows that the language involved in activating human's brain ability to reorganize inconsistency in language subject, which then affected the different moods of people (Egidi & Caramazza, 2014).

With the extensive history of researches, the strong relationship between linguistic vessel and affect/emotion could be concluded. However, more interesting questions were what kind of relationships they had with human behavior and whether an individual emotion has a unique relation or can be generalized. Therefore, finding the answers for these concepts has become one of the goals for this study.

The affect and emotion available to this study; however, were limited to whatever our principal tools and the LIWC could offer. The invention of LIWC is the powerful software that greatly aids the semantic-base psychological study. The detail and mechanic of this software will be explored in chapter 3.

Emotion, Affect, and Emotional Variables, another lead toward Share-ability

In order to observe the effect of a universal emotion, a more conscious-independent form of emotion variable was required. One of the solutions to this issue is to use an affect-based variable instead of an emotion, which was more individually specific. Eric (2005) described that an emotion and an affect were often the terms used interchangeably, but there was a distinction between these two terms. Firstly, an affect normally refers to the primate from of emotion that is expressed instinctively and it is unregulated by social norm or social value. For

example, the baby's expressions, such as crying, smiling or laughing were not due to his emotions, but an affect, as he has not been taught the meaning of feeling or affect he held while crying or laughing. On the other hands, the emotions were described as the projection of affect. According to Paul Ekman's experiment, this aspect of emotion was demonstrated through Japanese and American men who expressed different expressions while watching a film depicting facial surgery when they were alone and when they were in a group (Matsumoto & Ekman, 1989).

Following this tradition, this paper will refer to the term "affect" as the primate mood or feeling, while "emotion" was more or less psychological equivalence of "language" that was used to project the personal effect into socially recognizable units such as sadness, anger, or joy. Both "affect" and "emotion" differ from the term "emotional variable" which would be used exclusively to refer to the variable used in experiments for this paper. In short, an affect is a biological phenomenon, an emotion is a cultural variable, and the emotional variables are the variable bases, which represent one of the emotional aspects of affect.

Core Affect and Prototypical Emotion

Arousal was one of the key aspects of emotion variable employed in the previous study, relying on the same concept of affect as representative of emotion this study relies on the other psychological background "The Core Affect" theory. Developed by Russel and Barette (1999), the theoretical concept of "core affect" referred to "the most elementary consciously accessible affective feelings (and their neurophysiologic counterparts) that need not be directed at anything, in which it significantly influenced the modern emotion categories. The sense of pleasure or displeasure, tension or relaxation, and depression or relation could be the examples of core affect (Russel and Barette, 1999). Similarly, this term was also referred to activation (Thayer,1989), affect (Tellegen, 1985), mood (Morris, 1989), and feeling (Russel, 2003). One of the important core affect concepts was that the mental stage dimensions: pleasant-unpleasant and activation-deactivation can exist without any

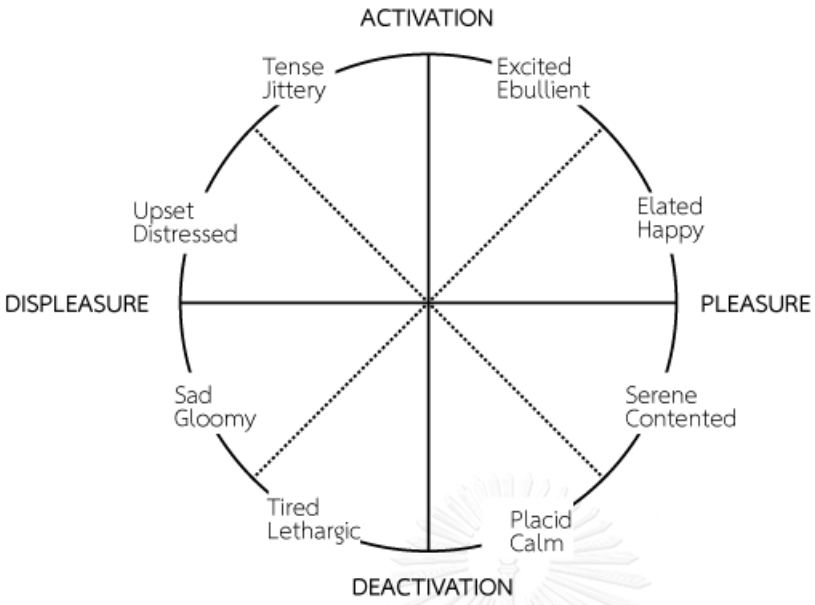
objective or direction as such emotion is primitive and common across all languages and cultures.

Besides, the study of Russel (2003) used body temperature to describe and exemplify the core affect as the temperature can be felt without any object to stimulate. Felt temperature exists prior to such words as hot or cold, prior to the concept of temperature, either in folk or scientific theory and prior to any attribution about what is making you hot or cold. The subjective experience is simple and primitive; therefore, it is irreducible to anything else psychological. Science can seek its causes and consequences, but further analysis of felt temperature; it takes us, not to constituent psychological atoms, but to biology".

Explained by Russel (2003), the core affect's function is a constant assessment process of one's current state and it also affects another psychological state accordingly. To specify, core affect was a part of the information used to determine the affective quality. When core affect changes, the mental function of human will rapidly search for the causes or a valence materials. Thus, the core affect would be consistent with our cognitive function in the same way that a mid-congruence behavior was consistent with mood. The more positive core affect was, the more positive situations encountered, remembered or envisioned seem, showing that core affect is not attributed elsewhere (Schwarz &Clore, 1983).

In addition to the cognitive function, the physical function of human could also influence and could be influenced the core affect as they are related to each other. The changes in the autonomic nervous system, facial and vocal behavior, and instrumental behavior are the example of human physical function (Russel, 2003). Also, it is demonstrated that mood congruency has a similar definition with core affect, which is also related to the affective quality of perception. The relationship between core affect and the affective perception was explained with the eight theoretical terms as shown in figure 2.1 (Russel, 2003).

Figure 1 *Russel's Core Affect*



Core Affect's Function and Relationship to Affective Quality of Perception

According to Russel (2003), the function of Core affect is a constant assessment process of one's current state. This function also affects other psychological states accordingly. In addition, core affect is part of the information, which is used to determine the affective quality. When core affect changes, the mental function of human will immediately search for the causes or a valence materials. Thus, core affect would be consistent with our cognitive function in the same way that the mood-congruence behavior was consistent with the mood. According to Schwarz and Clore (1983), the more positive core affect was, the more positive events is encountered or remembered. This shows that the core affect is not attributed elsewhere. Similarly, the cognitive function is not the only aspect that could influence or be influenced by core affect; however, the physical function of our bodies, such as the changes in the autonomic nervous system, facial and vocal behavior, and instrumental behavior are considered to be related to core affect as well (Russel, 2003). The latter also demonstrated the analogy of the mood-congruency, which was highly appropriate. With core affect, the effects of the mood-congruency can be extended to the autonomic nervous system (Kop et al. 2011),

facial expression (Stuhrmann et al, 2003; Zhang, Yu, and Barette, 2014), and vocal behavior (Zhang, Yu, and Barette. 2014).

Owing to its' similarity to the mood-congruency, core affect is considered to be related to affective quality of perception; however there is an interesting information found in the study of Russel (2003), which states that there are 8 theories that described the relationship between core affect and the perception of affective quality.

Firstly, both core affect and affective quality are not the emotion; however, they are similar to each other. (Russel and Barette, 1999 ;Russel, 2003; Russel 2009). This statement is supported by Niedenthal et al. (1999), who demonstrated that the stimuli are categorized basing on physical features and "emotional response". Similarly, Osgood's (1969) worked with the semantic differential found that affective quality is pervasive in the meaning of words. The similar finding was also claimed by the research study of Russel (2003), stating that the evidence indicated that persons routinely perceived the affective qualities of stimuli. Although we realized that the semantic evidence was weaker than other evidences we have in the present. However, as semantic differential is still widely used in many survey-based research, for example, the survey used in this research asking the participants to rank the score from not at all (1) to extremely (5). In addition, there are many researchers, who asserted that that there was the difference between core affect and affective quality of perception (Tesser and Martin (1996); Schwarz and Clore (1983).

Secondly, core affect has a positive correlation with the perception of affective quality when one had the object, which is the mental state that can be led by the perception, for example one enjoys a pleasant meal he is having. In contrast, the negative correlation with the perception of affective quality also exist, this included the cases of feeling loss, longing, desire, and scarceness. The more pleasant the object, the more displeased one feels for not having it. For example, the most pleasant object is to have the meal; in contrast, the unhappier one feels deprived of the meal.

Thirdly, the perception of affective quality can occur without any change in core affect at all. For example, a depressed patient can recognize that the sunset

was beautiful; yet, he feels no pleasure towards it (Russel, 2003). In addition, if a person quickly reads the following list of events; gorgeous sunset, car crash, delicious meal, watching someone torture your child, they will probably not going to undergo the process of emotional shift from every word they have read.

Fourthly, nothing has changed in core affect when one reads each item on the list. The changes are smaller in magnitude than the perceived affective qualities of the events. In other word, the feelings you have when reading about a car accident or child abuse cannot be compared to the painful feeling you got from the car crash or the agitation when seeing someone torture your child. In addition, when both core affect and affective quality occurred at the same time, they were described as quantitatively different processes (Russel, 2003).

In the fifth place, the operation rules of core affect and the perception of affective quality are different. The affective quality of a stimulus was described as relative to other instances of like stimuli, whereas core affect was described as relative to other instances of core affect. In fact, one function of core affect is shown to provide a common metric for comparisons across qualitatively different events. The same issue appeared in attempts to assess core affect and a judgment of affective quality. The latter was described as necessarily focused on a single event, which irresistibly evoked a standard of comparison limited to like events (Helson, 1964;Parducci, 1995). For example, Russel (2003) described a particular loaf of bread to be judged excellent, at the top of the rating scale, because it compared favorably with all other loaves. Nevertheless, for most readers, core affect might move a little on receipt of the bread.

Sixthly, Russel (2003) hypothesized that a human being has one core affect at a time. For example, a pleasant mood is incompatible with the unpleasant one, high arousal incompatible with low arousal. In contrast, people simultaneously perceived the affective qualities of many different stimuli, such as the boring friend, the relaxing garden, and the stimulating tune are simultaneously present, all with different affective qualities. In brief, core affect is the actual stage of our feelings. While the perception of affective quality is the perception, which do not has to be the affect we had at a particular moment. However, the same object can be described as

having different affective qualities because of different properties and aspects. Events unfold over time, and different stages could have a different affective quality.

Seventhly, human beings have the ability to represent, think about and anticipate core affect. For example, they can think about different events, different actions, and different outcomes without having been experienced the actual events or suffered from the outcomes (Russel, 2003). While they can represent and think about their own memory processes (Flavell and Wellman, 1977), they can also represent the affective qualities without having to undergo actual changes in core affect. Separation of perceived affective quality from core affect is needed for the decision-making process.

In the eight place, there is the empirical evidence, which supported the distinction. In certain circumstances, the stimuli's presentation with different affective qualities, such as happy and sad colors influences subsequent information processing without influencing core affect (Soldat, Sinclair, and Mark, 1997).

Attribute Affect

Attribute affect occurs when core affect is combined with an external object. The combinations are called "attribute affect". For example, a mood is prolonged core affect without any object. While affect regulation is an action, which aims directly at altering or maintaining one's own core affect without reference to an object (Russel, 2003).

Object

The object mentioned in this section was originally written as "Object" in the study of Russel' (2003), which specifically referred to an objective event in a psychological perspective. An Object can be real or imaginative as long as it can cause the person to feel the shift in core affect. LeVine (1963) found that the Gusii of Kenya's most intense emotion was expressed when they encountered with witchcraft. Likewise, an urban legend was also found to incite emotional respond (in

the form of disgust) among western society (Health, Bell, and Sternberg, 2011). Moreover, an Object could be even due to hallucination or trickery that triggered our mental emotional respond. Russel, (2003) gave an example of Mustafa's dead in Lion King was considered as an Object since it made audiences sad while Mustafa is just a cartoon character and might not be dead yet. Therefore, the conclusion to this explanation is that, since an Object was only an objective event occurring in psychological state, its physical manifestation is not always relevant to this theoretical framework. Therefore, it is not surprising that some people might believe in a convincing trick, an illusion or even a myth, as they perceive this object as an actual event. For example, some people might trust in a lie if it seems to be real for them.

Attribution

According to the non-core affect study, attribution is the bridge between antecedent of external event and emotion. For example, when we feel the music is pleasant, we will attribute our pleasant-based core affect to that certain music and recognize it as nice music. This shows that the experience requires an attribution of core affect to something (Russel, 2009). Another interesting explanation in regards to this issue was found in Neumann (2000)'s study, which stating that when a participant was primed with a cognitive attribution, the attribution will in turn being translated into a reported emotion.

According to Russel (2003), core affect can be misattributed easily. This is due to the fact that core affect is multiply determined, thus, the changes in core affect can be overestimated leading to misrepresentation. The study uses many findings as supporting evidences. These findings included the findings of Keltner et al. (1993), Ottati and Isbell (1996), Schwarz (1990), Schwarz and Clore (1983), Schwarz et al. (1987). In addition, these evidences are relatively dubious as core affect is the concept introduced by Russel and Barette since 1999. There are many terminologies and keywords, which were interpreted directly from other established the

psychological theory, for instance, the words “pleasant-unpleasant” are used for describing valence (Russel, 2003). Its implication is different from theory to theory (Russel and Barrette, 1999) and it is also considered as a separate factor in empirical study (Berger and Milkman, 2012). In conclusion, the author believes that the claims in the previous studies of misattribution cannot be fully applied to the framework of core affect (Keltner, Locke, and Audrain, 1993). For example, the study, which is based only on the negative feeling, does not extend to the state of activation and deactivation and does not represent the effects of both feeling’s dimensions.

Russel (2003) suggests that there is another important dimension of atrribution in core affect context. This dimension occurs when both the core affect and the Object are salient and it causes the attribution process to become quick, simple, and automatic. The temporal contiguity of two salient events, such as sudden upset and the bear, suffices in the production of attribution. He also mentioned that it was unclear to know when people started seeking the cause of core affect resulting in their attribution. Thus, this was summarized into this paper’s theory, showing that the concept of a salient Object suggested the strong degree of the brand activation, which was another dimension of core affect. Also, the stage of activation was also similar to the concept of conscious perception of stimuli, in which the amplified sensory, long distance reverberation, and global (brain) synchrony was regarded as its major aspects (Dehaene et al. 2006). These resulted in sharing information through various processes including evaluation, verbal report, planning and long-term memory which was considered as the period when people started looking for the cause of their core affect, for example, when they are fully aware of the change in core affect.

Prototypical Emotional Episodes

Prototypical emotional episodes were considered as one of the most vivid and recognizable emotions (Russel and Barrette, 1999). The term prototypical emotional episodes resulted from the fact that, even at this stage, it was still but an inner urge that the emotions were reflected upon (hence, prototypical) and only

activated for a limited period of time (hence, episodic). They were distinct from core affect and sometimes were the result of the shift in the latter. While the core affect it can sometimes represent a certain aspect of emotion, i.e. for example, pleasure it was sometimes considered an emotion, and displeasure couple coupled with activation resulted in an anxiety, it was incapable of the distinguishing aspects, such as jealousy, anger, and shame (Russel, 2003). A typical construct of the prototypical emotional episodes typically comprised an external event's perception (antecedent event), followed by the appraisal, the shift in core affect, and the attribution of such event to the shift. The Prototypical emotional episodes were composed of the following components:

Antecedent Event

A psychological representation of external events is known to have a complex perceptual-cognitive construct.

Affective Quality

The antecedent was perceived in terms of its affective quality.

Core Affect

The antecedent dramatically shifted the core affect. An emotional episode typically began when the antecedent started to be registered by our consciousness. The core effect could begin to shift even before the antecedent was consciously perceived. In either of the cases, core affect would continue to shift as the emotional episode developed and influenced other components as shown in the figure.

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Attribution

Core affect would be attributed to the antecedent resulted in the Object. The Object, in turn, resulted in the personal salient experience and consciously recognized that the Object was the cause of the current feeling.

Appraisal

The Object was assessed through the perceptual-cognitive process, of future prospects and relevant to one's goal areas. Judgment and mood congruence to core affect were more accessible.

Instrumental Action

The action is directed at the Object. Pleasure-displeasure quantifies the Object as a matter that needs to be resolved and a general preparation for approaching versus withdrawing may be included. Activation is a general mobilization in preparation for vigorous action. The specific action are taken depends on the current circumstances, resources, the goal, and the plan to reach that goal.

Physiological and Expressive Changes

Facial, vocal, and other automatic physical reactions were accounted for the (a) core affect, and (b) the instrumental action (including the preparation for and recovery from such action). Physical reactions were not unique in any specific emotions.

Subjective Conscious Experiences

In addition to the conscious experiences (core affect and perception of the Object's affective quality), there was also a metacognitive judgment: a sense of urgency, indecision, confusion, uncertainty, and incredulity; much of the episode are

beyond deliberate control. These metacognitive judgments are made hot by being accompanied by core affect.

Emotional Meta-*Experience*

The emotional meta-experience is the self-perception of one's current state of emotions. For example, when you realized that you were afraid of something. It was an additional separated subjective conscious experience as the person experienced a specific emotion. It is not the name of an inner event, for example, defining the frightening event as a fear, but rather said to be a categorization of one's state, in which the future of such category would base on the other components of an emotional episode stated in this list. The categories established by this experience were the typically the concepts that underlined the words, such as fear, anger and jealousy (in English, and something similar in another language). Each category is being perceived as structured according to prototype theory (Fehr & Russell, 1984).

Emotion Regulation

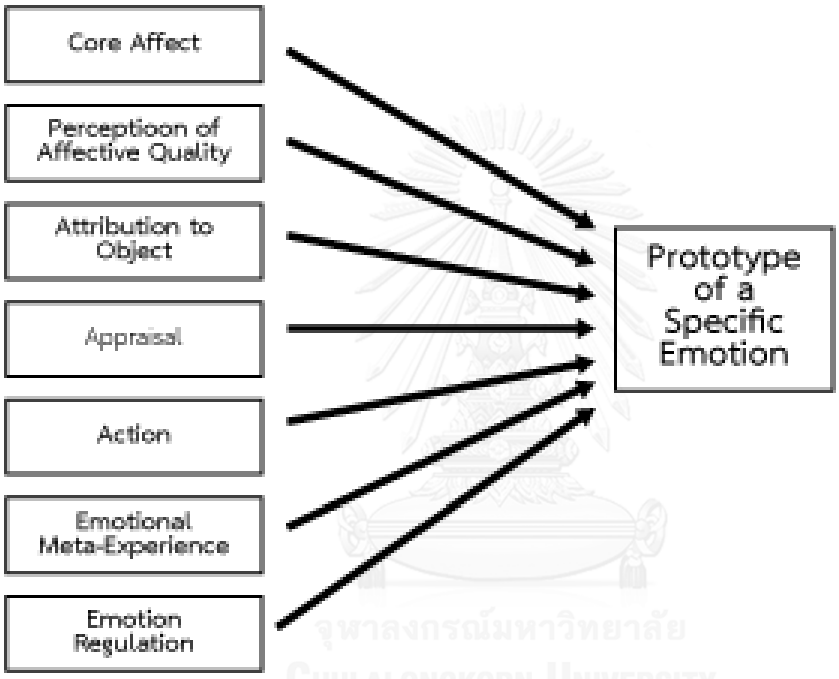
The regulation of emotion is the deliberated attempt of self-control based on categorizing a person's own self. Realizing one's state of feelings, for example, classified oneself as feeling afraid of something, can help people adjust themselves to broader contexts, such as social norms and rules.

A Final Note

These explanations are only applied in the event typically happened in prototypical emotional episodes. However, there could be many differences in other non-prototypical cases. For example, core affect can be extreme before rather than after the antecedent appears (as in displacement); one can enjoy what one appraises as dangerous (thrill seeking); the antecedent does not have to be the Object. The combinations of the components form the prototype of emotional episodes were

the answer of Russel (2003) to the previous basic evolutionary emotion theory, that argues that emotions were inherited from the past evolutionary process, and social construct approach. The new approach called psychological construct was demonstrated in Figure 2.2.

Figure 2.2 *Russel (2003) Psychological Construct*



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Psychological Construct Features

The psychological construct did not indicate any relationship among the prototype components of the specific emotional episodes, which was explained by Russel (2003) that since the prototype of specific emotions, such as fear, was not an entity, it was not an emotion debated historically as the cause of certain expressions and actions. In this current concept, the emotional episodes could arise from any of these components or a combination of them, and thus were displayed as such and only when all occurred at once it resulted in a prototype of the specific emotions.

The psychological construct was then, quite unique in comparison to other the emotion theories, which Russel (2003) has noted several of the key differences in the category down below.

Categories of emotion

In the previous emotion theories, an emotion as a variable obviously identified. However, it was not the case in this framework. Even though there was not a category of emotion in the diagram in Figure 2.2, which explains that some of them were not a biological given category. For example, fear is merely a linguistic category as there was no neural circuit, peptide, or any biological marker that is unique to fear. Therefore, what is used to categorize prototype of specific emotion is simply an observed component and mental representation, which went more or less into certain categories rather than belonging to one and not the other, as demonstrated in Figure 2.1.

Dissociation

In the previous perspective of emotion theories, each of the specific emotions was said to be sharing the same cause unless specifically and individually forbade from being so, and thus, each of the emotions was predicted to be highly correlated. However, in this construct, the causes of prototype emotions were entirely different and scatter across all the components of emotional episodes, and thus were much highly dissociated.

Ecology to the emotional life and resemblance to prototype

In previous emotional theories, there were strict lines of definition between emotion and non-emotion factors whether it occurred or did not occur. In this context, however, a prototypical of the emotional episode (as in all components

were activated at once) rarely occurred, while the other non-prototypical cases, where only one or a handful of components were activated and occurred more often.

Accounting for a Component

To reflect the nature of the component, no explanation was provided in the flow chart form, because both prototypical and non-prototypical emotional episodes could promote the emotions, but the later one was not as clear as the former one.

Mechanism

Psychological constructs did not require any particular mechanism to explain the origin of the prototypical emotional episode, but rather, it relied on the folk concept: what other people observe and attribute to certain combinations of the components of prototypical emotion.

Conclusion on Affective Theory

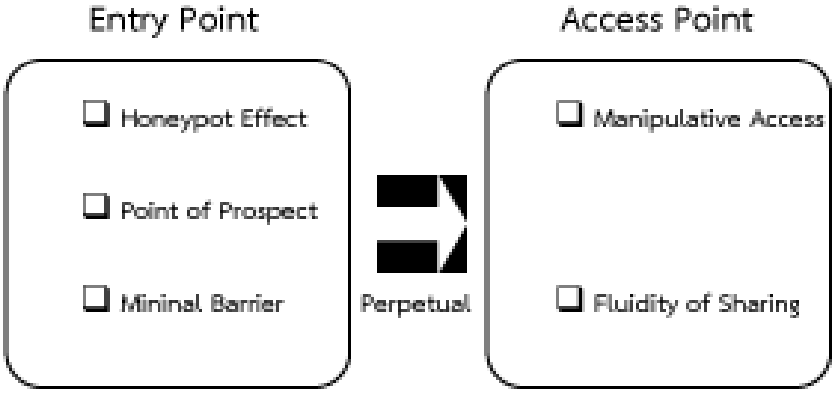
The examination of the concept of core affect and the model of psychological constructs reviewed much into the foundation of the use of core affect-based variable as a model and how they interacted with the other elements within these components. There were also several advantages and limitations that emerged from the current model following the study of this theory. First of all, as an antecedent event was considered the strongest component with the potential to overcome all of the other factors –that the news content as one form of the external factor could certainly relate to the core affect condition within our mind and led to our action, and thus confirmed the possible correlation between the stage of emotion and behaviour. Also, as the emotions of prototype and unoriginality were theorized and classified based on the perception of the beholder; therefore, the theorized hypothesis of this study is that the emotional response to core affect shifting across language and culture would be different, and the emotional responses

will become even stronger with the increased degree of differences among the two factors. As Russel's note, the Object is not the effect, and can be interpreted differently from culture to culture and even more, when it is transformed into prototypical and non-prototypical emotions which are the cultural interpretation of affect. Lastly, as within the context of this experiment, whatever emotions that had been identified by the coding process would be unlikely to be a prototype of an emotional episode (as the action would be automatically omitted, replaced by the numerical analysis of sharing data instead), however, as the goal of this study was not to determine the impact of a prototypical emotional episode on sharing behavior but rather focus on the shift in core affect (and the intercultural impact of it or lack thereof), this paper remained confident that this model remains valid.

1.3 Hornecker's Aspect of Share-ability (Share-ability Theory)

Eva Hornecker did once come up with the overview concept of share-ability including but not limited to social media (Hornecker, Marshall, & Rogers, 2007). She described share-ability as consisting of two major components: entry point and access point. Entry point was described as a "front desk" area of sharing platform, where the sharing process could take place. Users use the entry point to gain more knowledge about the platform and join in some of the less committed activities. The access point, on the other hands, was described as where the actual sharing and others.

Figure 3 *Hornecker's Aspect of Share-ability*



Entry Point

Entry Point consists of 3 major elements: Honeypot Effect, Point of Prospect, and Minimum Barrier.

Honeypot Effect

The Honeypot Effect was described as a form of Progressive Lure, which encouraged people to enter or move through the platform. In the web context, the structural design should slowly draw people to a more intense interaction through the presentation of several entry points. For the New York Times, these entry points would be the headlines that show people an overview of the content within and invite them for further interaction at the same time. Progressive Lure, as part of the Honeypot Effect, then acted as a promise of rewarding experiences for potential user, while potentially presenting them with the next point of rewarding interaction at the next entry point that existed within the website. Honeypot, on the other hand, was mentioned as the "more social" components of the Progressive Lure. Honeypot referred to the act of attracting people to a specific piece of content via sheer numbers of social interaction (while Progressive Lure only relies on the strength of content). The logic is similar to how popular restaurants can keep attracting more customers, simply because they have a number of customers and look busy. The Honeypot Effect was described as relying on the "threshold of attention" where people became knowledgeable enough to learn more about the overview of the web-based platform and capable of deciding whether they want to learn more about it, and the "threshold of interaction" which defined the point where they decided whether they want to interact more with the site. An online forum, for instance, could have some users spending time following their favorite post without becoming a member until they reach the point where they decide to join in and reveal themselves to the community. The sharable object needs to be visible in order to let the Honeypot Effect take place during the first encounter, and must be able to communicate its nature and function clearly.

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Point of Prospect

Point of Prospect was described as the placement and overall configuration of the entry point to allow people to have enough time and space to review what they could do with the entry point. Point of Prospect consisted of the visibility, observability, and legibility (relevancy) of the entry point. The entry point that lacks a properly planned Point of Prospect is like an advertisement that moves too fast for the audience, leaving no time to comprehend the content of the ads, and thus influence purchase decisions. Likewise, an advertisement that did not meet the potential consumers' interest and/or failed to justify its relevance would simply be discarded. Hence, legibility was viewed as important as visibility and observability. Point of Prospect was also described as the link to the access point, as it could lead to the point visibility, and also assisted in the Honeypot Effect.

Minimum Barrier

Minimum Barrier was described as a mild obstacle, established to communicate entry point to other users. In the physical sharable platform, a barrier can literally be a wall built to cover some other Point of Prospects, for example, a museum wall that prevents others from seeing the objects exhibited inside. Minimum Barrier would be the outermost layer of an entry point, and thus should communicate, functions, features, and other relevant information to the potential visitors, while also barring those less qualified to visit. For example, a restaurant might bar children or pets as part of their Minimum Barrier.

In the context of the website, Minimum Barrier would be the registration process that limited or barred less committed member members from accessing some of the content of the site. The New York Times, for instance, allows access to only a fraction of their online articles (often only lead the paragraph) to non-subscribers once their monthly allowance of free articles is exhausted.

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Access Point

Access point was comprised of 3 major elements: Perceptual Access, Manipulative Access, and Fluidity of Sharing.

Perceptual Access

Perceptual Access was defined as the access point, where users were allowed to observe the actual social activity of the platform in question in both online and offline platforms. A web-based physical access would be the non-membership privilege of various online forums, which often allow users to observe online topic posts and often their subsequent discussion but not allow do not allow them to post or participate in discussion themselves. The Perceptual Access in the New York Times website would be the monthly free articles allowance which allows non-subscribers to access a limited amount of content per month and get a feel of how the website operates. Perceptual Access did not guarantee user comprehension of website mechanics and community. Visibility, observability, and legibility will determine the level of user's ability to fully comprehend the function of the platform and the character of a community in a similar fashion to the concept in Point of Prospect.

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Manipulative Access

Manipulative Access was described as the level of access where users could have an actual interaction with the platform. Several measures were meant to increase Manipulative Access activities. The first one was aimed to create "simultaneous interaction" by having as many input devices as possible. As each input device allowed users to interact with the system, more users could use many devices at the same time and form a simultaneous interaction in a more convenient environment.

The second measure was to adjust the "size and form of interaction space" which involved reach, visibility, social norms and social atmosphere. But most importantly, the physical aspect of the platform environment could have significant

impact to Manipulative Access activities in the online section. For instance, a sitting or standing formation can form a “shared transaction space”. An example mentioned in Hornecker et al., 2007 was that people standing around a table or in circle creating a transaction space of a half-circle in-front of one’s body that one can see and interact within. Shared transaction space could provide social signals that “it’s ok to interact”. With more appropriate physical design, these signals could be amplified, creating a more welcoming space for interaction. The same study also mentioned that a research in cognitive science had determined a possible link between physical activity and emotion. An engineered area to optimize the best environment for interaction could result in better Manipulative Access activities. However, violation of the concept was also mentioned as a possible result for noteworthy social interaction.

Fluidity of Sharing

Fluidity of sharing was mentioned as the degree to which people can engage in shared interaction and switch roles or interweave their action with ease. The efficiency in interaction and role-switching was considered important as they facilitate “collaborative discussions” which in turn, was vital for productive activity, especially in online sharing. Collaborative discussion was described as the phenomenon when a product of one group discussion, was taken by other and reintroduced, improved, or added into other ongoing discussions. Collaborative discussion created “co-constructed knowledge” which added to the richness of the platforms platform’s interactive atmosphere. Let’s take a look at an online discussion forum again as an example. An exceptional answer to one of the inquired topics, where the existing members answer similar questions that might have been posted in the future with ease, increased the resourcefulness of the platform. Not only does the proliferation of knowledge also allow more members to be better informed, but also creates an important basis for richer, and deeper discussion among the members, which is a vital step in attracting more participants and sharing the ideas potentially.

Conclusion on Share-ability Theoretical Concept

Share-ability was considered as the act of sharing. Hornecker's concept introduced in this section mentioned several factors that have influences on the share-ability.

Many concepts listed under the guise of entry point and the access point were the area, which could be interacted in order to stimulate a better sharing activity or share-ability. In general, a sharable platform required an attractive, precise and clear communicating purpose through various concepts of an entry point, while managing activities under an access point in order to perform a better sharing platform.

As a result, these concepts mentioned in the study showed the several mapping points that could affect the emotions and also provided clearer picture of emotional language roles linking with the share-ability concept.

Conclusion of Research Framework

This paper basically contained three key concepts, which included *Russel's Core Affect*, *Hornecker's Share-Ability*, and *Pennebecker's Emotional Language*.

Firstly, *Russel's Core Affect* was used to classify and generalize emotional variables. Unlike the core affect, emotions were more complicated and varied depending on various cultures and societies, which might limit the application of finding. On the other hand, core affect relied on human instinct, so it was more universally acceptable. Therefore, by relying on the core affect, the finding of this study based on an American newspaper can be applied to other contexts. People should react to the affect in the same way as they react to a pain, regardless where they came from.

Secondly, *Hornecker's Share-Ability* presented the concept of share-ability in a traditional definition. The theory demonstrated the nature of share-ability, which allow this study to work on an operational concept. Moreover, it helped distinguish between the concept of share-ability and virality.

Lastly, *Pennebecker's Emotional Language* showed the significant relationship between language and emotion. One of the key assumptions of this theory is that the human emotion could be accessed by analyzing the languages used in the context. The link between language and emotion provided the evidences that the study of emotion can be conducted using linguistic input.

In conclusion, these three theories comprised of the concepts that were focused in this paper and inspired the mechanic of the study.

CHAPTER 3 - METHODOLOGY

This research aims to test the hypothesis that emotional language drives viewer sharing of online content within news platforms. To this end, LIWC text analysis software will be used to analyze the emotion aspects of the top 5 (weekly), most shared, online articles (N = 71 published on the New York Times website. Five emotion variables (emotion language markers) will be used as predictors: Anger, Anxiety, Sadness, Disgust, and Positive Emotions. Viewer sharing will be captured via two measures of top-five ranking: popularity and volatility. Popularity will be measured with three indicators of sharing: mean ranking, a positive skew of ranking (upward trend), and kurtosis of ranking (surging). Volatility is indicated by the standard deviation of the ranking. The two measures of viewer sharing (popularity and volatility) will be regressed on the five emotional language markers. The possibility of linear effects of emotional language markers on sharing will be examined. Implications of the findings for online news organizations will be discussed.

3 - 1 Research Procedure and Data Collection

The data used in this study was taken from the New York Times online list of most emailed (7 days) articles. New York Times displayed 25 of its most emailed articles under the most popular section. This paper collects the 5 top most articles on this list, using automatic data collection procedure which took place every hour.

The whole procedure took the total of 61 days which started at 15:00 PM, 19 November 2015 and end at 22:00 PM, 18 January 2016. 7106 lines of data are being collected in total which derived from 71 articles (N =71). The hourly data collected throughout this procedure comprises of the rank of the article within the most emailed list, the name of the article, the date of data collection and a full copy of the textual content of the page.

For the ease of an analysis, the rank of the article within this most emailed list will be translated into dummy variable which took the opposite value to the actual rank. Thus, article rank 1st on the list would receive the value of 5 in the data collection (and vice versa, the article with rank 5th would yield 1 in value). Full textual copy comprises the article heading, and full textual content. Advertising content, as well as photographic edit, are deleted.

Full textual copy is feed into LIWC software which in turn produced 4 emotion variables; Anger, Anxiety, Sadness, and Positive Emotions – Disgust is calculated by subtracting negative emotion with the rest of LIWC generated emotion variable. All of these emotion variables are regressed against popularity indicator (the mean of ranking, a positive skew of ranking, and the kurtosis of ranking) and the volatility indicator (standard deviation).

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LIWC

LIWC is the principal analytical tool in this study to identify the emotion-related linguistic elements in the sampled articles. LIWC is robust analytical software that has been extensively used in the field of psychology and communication (Berger & Milkman, 2012; Schwartz et al., 2013; Tumasjan, Sprenger, Sandner, & Welpe, 2010). The program bypasses the traditional language barrier and problematic subjective interpretation of individual rater in psychological study. This is accomplished by having a large dictionary of pre-recorded classifications of word and sentences developed by a group trained professionals and provide robust reliability for study that rely on written language as the main subject. LIWC is also effective in capturing affect which is the principal element of emotion of that is the subject of this study.

LIWC History and Development Mechanic

LIWC started off as a project to ward off degree of unreliability and inter-raters disagreement often found in traditional psychological study, using human raters. The project was first developed sometime after 1980, led by James W. Pennebaker and his peers at the University of Texas at Austin. The program had since become the norm for many other psychological studies. The LIWC program has two parts, the processing component and the dictionaries. The processing component is the software part whose task is to open a series of text files which can be anything from essays to poem. The LIWC would go through the text word by word with each word, registered each and compared them with its second part, the dictionary file. The dictionary is arguably the hearth of LIWC itself, numerous words category raging from emotion to grammatical dictionary is present within the program. The crucial component of LIWC for this paper lies in its emotion dictionary which also taken account for affect-reflecting words.

LIWC emotion dictionary is established via both human judged and other conventional dictionaries, thesauruses, questionnaires. Each of the word admitted into the categories will be rated by a group of three judges who will each rate independently whether the word is appropriate for its emotion categories. The word rating during LIWC development and update is working under the certain specific criteria. At least two out of three judges have to agree for the word to remain in the category list. At least two out of three judges have to agree if the word is to be deleted from the category list. At least two out of three judges also have to agree if new words are to be added to the categories list. This whole process was then repeated a final time by a separate group of three judges. The final percentages of judges' agreement for the second rating phase ranged from 93% to 100% agreement. Most of the dictionary development by this judging procedure took place during 1992-1994; significant revision of word categories took place in 1997 - 2007. Text files from several dozen studies, totaling more than 100 million words were analyzed.

Some low base rate word categories were deleted and others were added. (Chung & Pennebaker, 2014; Tausczik & Pennebaker, 2010)

In conclusion, this paper as well as various other beliefs that LIWC is a valid research tool with vigorous and efficient development procedure. All which should prove valid for the study undertake in this paper.

Next, this chapter will be addressing some of the concept of affect and emotion as well as the prime affective model employed for to anticipate the effect of emotion variables offered by LIWC.

LIWC Coding

LIWC 2015 determines the rate at which certain cognitions and emotions (e.g., future orientation, positive or negative emotions) are present in the text (Tausczik & Pennebaker, 2010; Tumasjan, Sprenger, Sandner, & Welpe, 2010). When set into "Affect" configuration, LIWC can yield an emotion language marker which includes Positive, Negative, Anger, Anxiety, and Sadness. Anger, Anxiety, and Sadness has been cited by various studies as basic emotion, common across all languages and culture, thus compatible with the concept of affect which was the aim of this research (Ekman et al., 1987; Gray, 1985; Oatley & Johnson-Laird, 1987). One problem existed under this model, however, as Sadness, Anger, and Anxiety is often also part of negative emotions themselves and thus would likely to have multicollinearity issue with a Negative variable.

To avoid these issues, this study discarded this variable in favor of disgust, another commonly cited basic emotion by Paul Ekman (Ekman, 1992, 1999; Ekman et al., 1987). To extract disgust out of the variable we have available, the Negative variable was subtracted from the effect of Anger, Anxiety, and Sadness. The original basic emotion of Ekman himself included Anger, Disgust, Fear, Joy, Sadness, and Surprise, which Joy and Surprises was not part of negative emotion, and Fear itself is similar to Anxiety – the subtraction of LIWC emotion variables out of Negative should leave us with Disgust or the similar variable thereof.

The remaining variables which consisted of Positive Emotion, Anger, Anxiety, Disgust, and Sadness were then reclassified according to Russel's dimension of Core Affect. The Result was displayed below

Activating Negative Affect: Anger, Anxiety, Disgust
Deactivating Negative Affect: Sadness
Positive Affect: Positive Emotion

While it is true that with the current variable, this paper would unable to deliver the full spectrum result of Russel's Core Affect analysis. However, by citing a previous study (Berger and Milkman, 2012) some degree of effect of emotion marker language had already been identified. Therefore, the current variable available to this study should be able to confirm or deny the previous assumption under different setting that has been employed.

Dependent Variable

This paper included 4 separated measures as dependent variable that can be influenced by the emotion mark in the language. The first being popularity measure which derived from the rank of the article in the most emailed list.

The Popularity measure is calculated from the average number of hours, positive skewness*, kurtosis, and medium, all converted to z score and averaged out with the following equation.

Positive Measure = (zmean + zpositive skewness + zkurtosis + zmedium)/4

Despite the suggestive name, positive skewness is not used to capture the effect of positive skew. In fact, the variable is used to identify the chart with negative skewness (i.e. start out less popular but perform increasingly better as time pasted) but with reverse score to be compatible with other input use in the analysis of this study. The formula used for positive skew is as following.

* positive skewness = zskewness * -1.

Sustaining measure came second, the sustaining measure represent how long the articles would manage to keep themselves on the list of most emailed. The sustain measures comprised of N, SD, and midimax, an operational definition used by this study which shall be elaborated later on. Sustaining measure use the following formula

Sustaining measure = (zN + zSD + zmidimax)/ 3

Linear measure indicate rate of changes of the chart plotted from movement behavior of ranking over the course of study. Linear is simply calculated from the rise and run of the rank chart itself. Linear measure is as the following

Linear = rise/run if rise ne 0 and run ne 0 with rise = maximum – minimum and run = last - first.

Bouncing measure indicate the degree in which the chart plotted out of rank over the course of study form complex movement behavior (i.e. cubical, quadratic). Bouncing measure was derived from midimin (operational terminology, would be explained later on) and cubic of ranking chart.

Bouncing measure = (zmidimin + zcubic) /2

Midimax and Midimin

Midimax and midimin are the term introduced in this study to capture the effect of parabolic curve of ranking chart employed by this study. Midimax refer to the instances where the articles experienced a rise in the rank and drop somewhere in the middle of their time in the list of most emailed article (forming a reverse U-shape parabola). Midimin on the other hands, is the opposite which experienced

drop somewhere in the middle instead (forming U-shape parabola). Both of these are measure of graphic quadratic function in the ranking chart which is a major indicator of graphic behavior and is included in Bouncing measure. The existences of either midimax or midimin are evidences of none-linearity.

Articles with relatively shorter time on the list of most emailed articles tend to have either of these two trait (midimax or midimin). However when article having both midimax and midimin at the same time, they would report as cubic. A graphic cubic function is categorized by an instances which contained both parabola and revers-parabola graphic (forming S-shape chart) which this paper consider a complex graphic behavior.

Linearity and Bouncing

Linearity is originally meant to be part of the bouncing factors. However, factor analysis show that when using together with the rest of bouncing measure, linearity reduced the reliability of the measurement as a whole. Linear by itself show the same pattern as popularity. As Linearity by definition is the evidence of the rate of change, the steepness of each and every lump formed from the chart movement, exclude it entirely might not be effective as it exclude one of the primary aspect of chart movement. Keeping in with Bounce, a major shape indicator, is however not possible as they two factor show incompatibility toward one another. The solution is to keep both measure separated, with Linearity as its own independent measure from Bounce.

Figure 4 *Exploratory Factor Analysis*

Measurement	Popularity	Sustaining	Bounce
	1	2	3
rskew	0.93	0.07	0.02
Kurtosis	0.80	-0.11	0.08
Median	0.77	0.56	-0.05
Mean	0.76	0.59	-0.02
SD	0.22	0.91	-0.11
N	0.47	0.79	-0.02
midimax	-0.26	0.75	-0.17
midimin	-0.01	-0.14	0.88
cubic	-0.01	0.31	-0.80
linear	0.04	0.09	0.56

3 – 2 Hypotheses

The key hypothesis of this study is that the activation affect and positive affect, in general, would lead to increase in the popularity measure of sharing while the deactivating negative would decrease lead to a decrease in popularity. This is

due to the fact that some of the previous study (Burger and Milkman, 2012) also concluded in the fact that activating emotion leads to the increased chance of article appearing on the list on most emailed article. Because of this reason, this paper believes that, the same effect should be applied to the population of article that already appears on the most emailed list as well.

H1: Activating Negative affect (Anger, Anxiety, and Disgust) and Positive Emotion will increase the popularity measure of sharing.

H2: Deactivating Negative affect (Sadness) will decrease the popularity measure of sharing.

H3: Activating Negative affect (Anger, Anxiety, and Disgust) and Positive Emotion will increase the sustaining measure of sharing.

H4: Deactivating Negative affect (Sadness) will decrease the sustaining measure of sharing.

H5: Activating Negative affect (Anger, Anxiety, and Disgust) and Positive Emotion will increase the linear measure of sharing.

H6: Deactivating Negative affect (Sadness) will decrease the linear measure of sharing.

H7: Activating Negative affect (Anger, Anxiety, and Disgust) and Positive Emotion will increase the bounce measure of sharing.

H8: Deactivating Negative affect (Sadness) will decrease the bounce measure of sharing.

*validate with 0.1 or above correlation value

3 - 3. Reliability and Validity

The methodology employed by this study is highly reliable. Many of the components of procedure in this study are design to free from a human influence, thus contribute greatly to reliability. The coding, for instance, is software-based instead of human rater-based and so completely mitigates the effect of inter-rater reliability. The analysis was also done by a software program.

The methodology and concept employed by this study had also been practiced by several other papers. One of the most prominent among these is the Berger and Milkman 2012 who employed similar level of the coding system (LIWC) and database (New York Times list of most emailed articles). The notable differences between this paper and the current method employed by this study are the different nature of our sample group. While Berger and Milkman relied on the logistical regression analysis whether emotion variable has an effect on propelling articles into the list of most emailed article, this paper linear regression analysis on the movement in the rank of articles that already appear on the list. The goal is to isolate emotion that contributes to increasing or decrease in the rank of articles that were already popular.

Concept-wise, several affective model based on Russel concept of core affect were already developed to be used in the field (Västfjäll, Friman, Gärling, & Kleiner, 2002)which was validated with empirical experiment (Västfjäll & Gärling, 2007). Three dimension model of emotion was claimed by some to be more effective (Schimmack and Grob, 2000).Västfjäll Swedish self-report experiment employed some of the affect display in Russel dimension of pleasant-unpleasant and activation-deactivation on a population of 1,122 population, using unipolar 24 adjectives scale and 12 bio polar adjective scales on smaller population (96) and test the effect of mood-inducing music. This study and the later 2007 show the highly reliable result which convinces this paper to the validity of Russel model.

3 – 4. Measuring Correlation

Due to the natural limitation of focusing our sample on top performed content - the extremely small sample size (only 71 in total, while some other focus on the entire website could reach up to 7,000), this paper has employed unorthodox scale in measuring correlation. 0.1 and above was used as benchmark for relatively strong correlation (P value 0.1 and above, a = 80 or above). Due to our small sample size any significant or strength in correlation are very weak. Because of this reason, the study is speculative in nature and so the focus is made based on relativity (to

our other finding which based on the same limited scale.) rather than absolute term both in significant (P) and strength of correlation (B). The main assumption behind this practice is that, strength of correlation (especially in common with larger findings) is more likely to be vindicated in larger study. On the other hands significances can be changed, even disappear with the change in sample size.

This practice is not uncommon. 1.0 Correlation was rarely considered a goal in social science project. For instance, Cohen, who wrote the book on effect size, argues that r = .50 is large, .3 is moderate, and .1 is small (Cohen, Cohen, West, & Aiken, 1983). With our current sample size, most of the effect was expected to be small, and so more emphasize was placed on “having some effect” and “no effect at all”. Hence, this measurement was chosen. From this point on, the 0.1 and above would be referred to as “acceptable level of correlation” in this study.

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CHAPTER 4 - ANALYSIS OF RESULT

Throughout the period of data collection, the total of 71 articles had been gathered from the New York Times list of most emailed articles. Correlation analysis indicated that only positive emotion in linguistic elements of the articles does have a significant correlation to the popularity measure while a similar degree of significance were not found among any other emotion variables on any other measures. Sadness as deactivating emotion also found to have a relatively lower correlation to most measures, but failed to prove its negative influences on any measures we've brought up. The full report can be found below.

4 – 1 Hypothesis Testimony

H1: Activating Negative Affect (Anger, Anxiety, and Disgust) and Positive Affect will increase the popularity measure of sharing.

Positive Affect had relatively much stronger correlation to popularity compare to the rest of emotional variables. However most of the Activating Negative Affect did not shares this conclusion (except for Disgust). Thus the H1 which based on the original assumption that activation (arousal) and positivity in general would be the key factor behind online sharing cannot be accepted.

H2: Deactivating Negative Affect (Sadness) will decrease the popularity measure of sharing.

Sadness did not correlate to popularity measure, and therefore H2 was also rejected.

H3: Activating Negative Affect (Anger, Anxiety, and Disgust) and Positive Affect will increase the sustaining measure of sharing.

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None of the Activating Negative and Positive Affect had acceptable correlation to sustaining measure of sharing (although Anxiety and Disgust had near acceptable correlation to popularity), Therefore H3 was rejected.

H4: Deactivating Negative Affect (Sadness) will decrease the sustaining measure of sharing.

Sadness only had acceptable correlation to sustaining but not negative to popularity. Therefore H4 was rejected.

H5: Activating Negative Affect (Anger, Anxiety, and Disgust) and Positive Affect will increase the linear measure of sharing.

Positive Affect did have relatively strong positive correlation to linear measure of sharing. However almost every Activating Negative Affects (with the exception of Disgust) had unacceptable correlation to linear and so H5 was also rejected.

H6: Deactivating Negative Affect (Sadness) will decrease the linear measure of sharing.

Sadness had an acceptable correlation to linear measure of sharing. However the correlation was not negative and therefore H6 was rejected

H7: Activating Negative Affect (Anger, Anxiety, and Disgust) and positive affect will increase the bounce measure of sharing.

Anxiety and Anger did have acceptable positive correlation to bounce. Disgust and Positive Affect, however, did not have a significant positive correlation to bounce. Therefore H7 is rejected

H8: Deactivating Negative Affect (Sadness) will decrease the bounce measure of sharing.

Sadness does not have a significant correlation to bounce measure of sharing and therefore, H8 is rejected

With this result, all of the 8 hypothesizes were ultimately rejected. However, the analysis also reviewed more than this paper had previously anticipated and the answer of research question can still be found (albeit not via the initial hypothesis). To support this conclusion, this paper would like to point out at the analysis of the correlation result which could be found below

4 – 2 Cross Measurement Correlation

This paper employed 4 measurements to gauge the effect of share-ability, popularity, sustaining, and bouncing, and linearity based on statistical as well as graphical value of the data. Initially, this paper assumed that only popularity (which based on the ranking score) would be the only effective measurements of share-ability, while the rest of the factors act as the measurements of the characteristic of share-ability. This was the reason why, the hypothesis of this study involved the 4 measurements being compared directly against the emotional variables. However, contrary to our expectation 3 out of 4 measurements also display much stronger correlation among themselves than to the emotional variables we employed (0.526 between popularity and sustaining and 0.284 between popularity and bouncing while most other result barely reached 0.1). As popularity (measurements) largely formed out of overall performance of articles rank overtime, this result might be unsurprising. After all having higher rank contributed to more which should contributed to longer time on the list of most emailed. On the other hands, articles should take some time for opinion to developed, content that disappear after a few days shouldn't have as many readerships and so not as many spit opinion and so the relationship between popularity to sustaining and sustaining to bouncing might just as well be natural. However, this paper believed that this was also the sign of share-ability manifestation. Because all of these measurements were shown to be interconnected, any effect of emotion variables on any of the factor would in turn influence one another. Therefore they should all be considered the effect on share-ability as a whole. With these explanations, many of the emotion impact on share-ability could be found via empirical observation of the result of this study.

Figure 5 *Share-ability Measurements*

		pop: 4 items a=.89	Sust: 3 item a=.80	Bounce: 2 items a=.80	Linear
Popularity Factor: 4 items, a=.89	Pearson	1	.526	.067	.041
	Sig. (2-Tailed)		.000	.577	.736
	N	71	71	71	71
Sustaining Factor: 3 items, a=.80	Pearson	.526	1	.284	.011
	Sig. (2-Tailed)	.000		.017	.930
	N	71	71	71	71
Bounce Factor : 2 items, a=.80	Pearson	.067	.284	1	.041
	Sig. (2-Tailed)	.577	.017		.228
	N	71	71	71	71
Linear	Pearson	.041	.011	.228	1
	Sig. (2-Tailed)	.736	.930	.056	
	N	71	71	71	71

4 – 3 Breakdown Analysis

Breakdown Analysis on the result of individual variables can be founded below.

Positive Affect (Positive Emotion)

Positive Affect was proven to be the relatively decisive factor that influenced popularity of the articles in this paper. The correlation between positive emotion and popularity factors was much clearer and stronger than most (0.244). The Positive Affect was also found to be strongly (in relative term) correlated with linear which signify the rate of change overtime. The fact that Positive Affect had little to do with sustaining and bouncing measures, which indicated that the linguistic element that contained Positive Affect did have association with increased in rank albeit with condition. Such effect should not last long, in comparison to other emotion variables

(due to the lack of effect from sustaining or consistent, this is still debatable however, see near acceptable effect for more detail), and produced a flatter, more consistent rise.

Figure 6 *Positive Emotion Result*

		pop: 4 items a=.89	Sust: 3 item a=.80	Bounce: 2 items a=.81	Linear
Positive Emotion	Correlation	.244	.050	-.044	.207
	Sig. (2-Tailed)	.040	.680	.715	.083
	N	71	71	71	71

Negative Activating Affect (Anger, Anxiety Disgust)

Negative Activating Affect yielded largely mixed results with 3 key emotion variables in this category largely form their own characteristic which was overall related to share-ability. Anxiety and Anger shared similar acceptable correlation to bounce (0.128) while generally yielded lower or negative correlation to popularity and sustaining. These characteristics were unique to only two of these variables while Anger, another Negative Activating, only produced acceptable correlation to bounce. Disgust, on the other hands, was the only Negative Activating Affect to form acceptable correlation to popularity (0.126) with near acceptable correlation to sustaining factors (0.088). See Near Acceptable Effect of Emotion Variables for more detail.

All of the Negative Activating Affect shared similar acceptable correlation (in various degrees) to popularity and sustaining. Only Anger and Anxiety yielded acceptable correlation to bounce and only Disgust had acceptable correlation to popularity. This in general, meant that despite most of these emotions did not contribute as much (as popularity) to increasing rank, they tend to contribute more to share-ability persistency and were less stable compared to the popularity-driven Positive Affect.

Figure 7 *Negative Activating Emotion*

		pop: 4 items a=.89	Sust: 3 item a=.80	Bounce: 2 items a=.81	Linear
Anxiety	Correlation	-.82	.083	.128	-.032
	Sig. (2-Tailed)	.496	.494	.288	.792
	N	71	71	71	71
Anger	Correlation	.096	.066	.166	-.011
	Sig. (2-Tailed)	.427	.582	.166	.927
	N	71	71	71	71
Disgust	Pearson	.129	.088	-.63	.115
	Sig. (2-Tailed)	.282	.467	.603	.341
	N	71	71	71	71

Negative Deactivating Affect (Sadness)

Negative Deactivating Affect which contained only single emotion variable, Sadness, yielded unexpectedly unacceptable correlation to most of the measures employed in this study. The sadness correlation to popularity and bounce was clearly not meeting the acceptable degree (0.061 and 0.028 respectively). The only near acceptable reading was the sustaining factor which yielded near acceptable correlation (0.86). On the other hands, the only exception to this is linear which was found to be acceptably correlated (0.115). This meant that the sadness did not contribute to share-ability in any measure. However, it might possibly make a more stable performance with little influence.

Figure 8 *Deactivating Negative Emotion*

		pop: 4 items a=.89	Sust: 3 item a=.80	Bounce: 2 items a=.81	Linear
Sad	Correlation	.061	.086	.028	.115
	Sig. (2-Tailed)	.613	.478	.815	.338
	N	71	71	71	71

4 – 4 Near Acceptable Effect of Emotion Variables (in light grey)

The correlation metric displayed in this Chapter showed several interesting emotion effects which are too small to report, but large enough to nearly reach acceptable level of media effect (0.1). Despite obtaining over 7,000 lines of data during the period of data collection, many of the articles that appear on the most emailed list tend to be recurring and so large chunks of data only consisted of the same articles over and over. These results in the only 71 unique articles were taken. This relatively smaller size might be the reason why some of the, otherwise would be acceptable effect of emotion, appear smaller than normal. With a larger sample size, these emotion effects have the potential to become larger and so worth mentioned. Because of the effect below 0.1 in this study were consistently reported at approximately 0.08, this figure would be taken as the line between near acceptable effect of variables and none at all.

Anxiety Reduced Popularity and Increase Sustaining

Anxiety negative correlation to popularity is near acceptable (-0.082) and also had positive correlation to sustaining factors (00.83). This is an interesting phenomenon as we explored earlier, popularity correlates with sustaining factors while sustaining factors correlates with bounce. Despite that Anxiety managed to reduce popularity and increase sustaining, the two factors that supposed to be correlated, and so should not be showing the opposing result. This finding might actually be the answer to one of the puzzles presented in the findings of this study as to why some emotion that supposed to be one of the activating factors ended up failing to contribute to the act of sharing articles as anticipated. Let us be reminded that all of the articles presented in this study have been already a highly shared

articles, in fact, they were one of the best performed contents that beat all of the 25 others in the New York Times most emailed articles which in turn were selected from the tens of thousands of articles which existed in their website. Thus, the lack of effect in increased popularity factors did not mean that the articles were not popular – they were already among the most popular on the entire website. The fact that Anxiety managed to have a negative effect on popularity while positive to sustaining, merely mean that the emotion failed to make articles more popular in comparison to other popular in the most top end range. This is because the positive effect on sustaining mean that they remained on the top 5, very best performed articles of the New York Times for longer which also mean that no matter how strongly negative they could be with the popularity, they were still not push out of the top 5 ranks (which indicate low to sustain). This could perhaps be the effect of Anxiety as activating emotion that was left out of the initial report and could become more apparent with larger samples.

Anger and Popularity

Anger formed near acceptable correlation to popularity. This might perhaps come to no surprise, after all, Anger was known to be significant rhetorical elements in many of the most famous and popular politicians from Adolf Hitler to other revolutionary leaders in the Cold War era. What came as a surprise was the fact that despite the prominent , Anger correlation to popularity was only near acceptable which indicated a lower tendency than other emotion variables employed in this study (such as Positive Emotion). However, despite that, Anger near acceptable correlation to popularity couple with its clear relationship to bouncing effect in the ranking chart should provide a strong clue as to their effect as activate emotion to large scale sharing of online contents. Like Anxiety, the near acceptable nature of this correlation might result from the relatively smaller sample size of this paper – with more unique articles collected, the anger relationship to popularity might have been more apparent. Two of the articles that were received among the highest rating on Angry by far in this study were the End the Gun Epidemic in America (4.24), and

95,000 Words, Many of Them Ominous, From Donald Trump's Tongue (1.88) while New York Times articles had Angry rate of 0.63 on average. Both of these articles displayed very strong popularity behavior, both spent more than 150 hours on the most emailed list (average is 100 hours). End the Gun Epidemic in America scored 4.7 out of 5 on ranking on the average, while 95,000 Words, Many of Them Ominous, From Donald Trump's Tongue received somewhat less (3.01), however both scored impressive negative skew growth pattern (received higher rank over time). This might indicate that there might be some sort of threshold that Anger element in presented text need to pass in order for its effect on popularity to be seen. With larger sample size, more of these could be found, allowing the future researcher to explore the nature of their relationship even more.

Figure 9 *"End the Gun Epidemic in America" Ranking Chart*

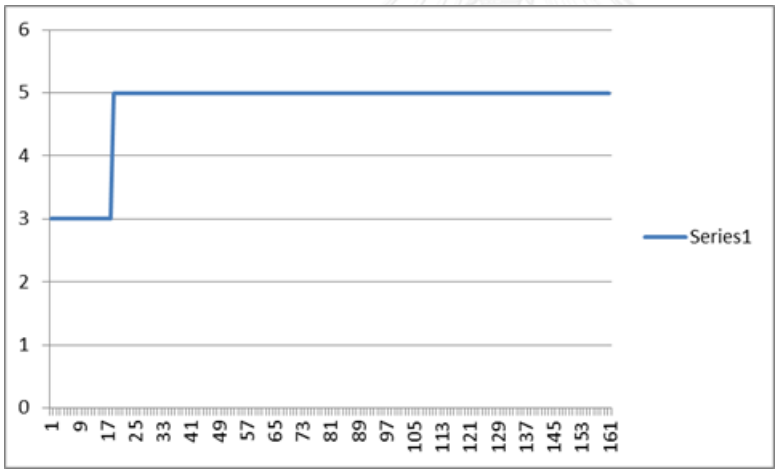

Figure 10 *"95,000 Words, Many of Them Ominous, From Donald Trump's Tongue" Ranking Chart*

Sadness Sustained

Sadness did not report any effect on all of the parameters this paper invented to acceptable level. The near acceptable effect of Sadness, however, can be found on sustaining which is an interesting pattern. Sadness was considered deactivate emotion by this study, but displayed none of the traits of deactivation

that was expected (generally decreased in all parameters involved). Yet the only thing that was found about near acceptable effect of Sadness on emotion was increased in sustaining which was one we expected from more positive or activating trait. This could possibly lead to one thing – that Sadness, might from the start, not exactly a deactivate emotion. Intense Sadness sometime did not lead to the symptom of deactivation at all. A depressed patient wouldn't find themselves sleepy, quite the opposite; they would find themselves unable to sleep to the point where they would find themselves in need of medication assistances to lay down. However, it was also possible that the effect of Sadness simply could not be found in the sample presented in this study. The highest score on Sadness we could find in this sample was 1.39 (Is the Drive for Success Making Our Children Sick?) with an average score of 0.34. In comparison the highest score on Anger was 4.24 with an average score of 0.63, while the highest score on Anxiety was 3.49 with 0.53 on average, and Positive Emotion highest score at 4.69 with 2.64 on average. Not even Disgust which was the least prominent emotion so far in this study would score lower on Sadness both on the maximum and average. A study focused only on articles with prominent Sadness characteristic might reveal more about the nature of its relationship to online sharing behavior, but as per this study, it was rather clear that these emotional languages were clearly under represented under this sample.

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Disgust and Sustaining

Disgust was the least solid of all variables employed in this study. Rather than disgust, the variable was more of a collection of all negative emotion with the exception of Sadness, Anger, and Anxiety (which was precisely how it was created). With the theory Ekman's basic emotion ((Ekman, 1992, 1999; Ekman et al., 1987)), we approximated that the feeling of disgust would be what remained after process. Regardless of whether Disgust would represent the feeling of disgust it was meant to be, the near acceptable effect of Disgust was on sustaining factors. Unlike the weakly represented Sadness, Disgust also had strong correlation on popularity which meant that it did exhibited expected behavior of the deactivating negative emotion. In fact,

if the sustaining nature of rank could be expanded in the larger sample, this paper would argue that the Disgust could be even more solid than Positive Emotion as powerful drive in online sharing of articles. Positive Emotion sole correlation to popularity might indicate that the article's rank only goes up for a short period of time and then disappear completely due to the lack of strong effect in sustaining and bouncing. In comparison, a positive in both popularity and sustaining would have been more effective from practical perspectives. The most "disgusted article" in this study was "Are Good Doctors Bad for Your Health?" (1.83) which wasn't as strong as some other emotion variables. Still, Disgust score was rather high on average (0.61, the third highest after Anxiety 0.63). These provide relatively strong basis for assuming that the relationship of Disgust on sustaining could have been higher in the larger study.

4 – 5 What Constitute Emotional Variable?

LIWC classify emotion variable based on emotional languages contain within the software dictionary. Here, we will be showing what kind of content and word that constituted the emotional variable. Below are analysis of top 19 articles with highest score toward particular emotion variables and their topic categories. Examples of texts that constitute emotional variables in one of the most prominent content in each category are also provided.

Classifying Topic

This paper does not follow New York Times, in topic classification. This is due to the fact that many of the content that appear on this collection sometime does not display clear topic classification (i.e. being locate in opinion section). To make clearer analysis, the paper employed our own system of classification which composed of the following. Politic, composed of issue about politician, war, election, and well know political issue (i.e. the right to gun ownership in America). Religion, covering religion related topic, including issues such as rising islamophobia and faith (issue such as terrorism and political right in Islamic world however are cover under

Politic topic). Historical cover topic related to ancient world such as medieval practice and World War II history. Social, contain domestic issues such as social equality and corporate malpractices. Life Style contains topic regarding human interest, art, and culture. Economic contains topic regarding financial market, money supply, economic policy. Health is covering topic regarding healthcare industry, research, and suggestion.

Example of Specific Emotion Content

It is important to note that because the extreme disparity between one emotion variable to another, it is unwise to consider content with strongest emotion as benchmark for specific emotional language. This might due to the effect of emotion-rich content where strong emotion tend to drive emotion variables in every category up as well. Choose to Be Grateful. It Will Make You Happier, for instance is also the top content in Positive Emotion, Sadness top 19 list and the second top content in Disgust. This is likely to be the result of having rich emotion than containing significant negative sentiment. After all the Positive Emotion (7.55) in this content is much larger than either Sadness (1.39), Disgust (1.64) or Negative Emotion as a whole (2.23). Because of this reason, the article that will be chosen as example for each emotion categories would be based more so the prominent of specific emotion i.e. not only the content will receive higher specific emotion score but must also score greater than other emotions on the same content.

Positive Emotion

Positive Emotion tends to contain significant amount of content which are related more toward generic, none-critical topic. The top 19 with highest Positive Emotion Score contain the least of the politic and social content (7) and highest in topic like Life Style, and Historical. Most of these topic share similar characteristic in being less critical (or not critical at all) and often contain topic that offering personal suggestion (as oppose to collective societal improvement). This trend likely suggests

that, Positive Emotion in general contain topic that is none-critical, self-empowering, and word that describe beauty, pleasure, and passion.

The content which received the highest Positive Emotion Score is Choose to Be Grateful. It Will Make You Happier (7.55), the article that encouraging people to show more gratitude to improve life quality, which score more than 3 times as much as the mean (2.648) and also much stronger than other emotion presented in the study (the second strongest emotion variable is Disgust with 1.64 score, not including negative Emotion). The textual analysis of this content are displayed here.

Figure 11 *Top 19 Positive Emotion Content*

Story	Theme	Positive
Choose to Be Grateful. It Will Make You Happier	Health	7.55
The Christmas Revolution	Historical	4.69
The Brutalism of Ted Cruz	Politic	4.15
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	Social	4
The One Question You Should Ask About Every New Job	Life Style	3.96
Dear Powerball Winner: Take Our Advice and Take the Annuity	Life Style	3.94
The Big Short,' Housing Bubbles and Retold Lies	Economic	3.94
Why I Will Never Vote for Donald Trump	Politic	3.9
Goose-Steppers in the G.O.P.	Politic	3.75
The Best TV Shows of 2015	Life Style	3.55
For the Wealthiest, a Private Tax System That Saves Them Billions	Social	3.52
End the Gun Epidemic in America	Politic	3.5
The Best Movies of 2015	Life Style	3.45
8 Things You Can Do Now to Save Money on Travel	Life Style	3.42
12 Minutes of Yoga for Bone Health	Health	3.39
Finding Peace Within the Holy Texts	Religion	3.32
Simple Rules for Healthy Eating	Health	3.31
12 Travel Apps Worth Keeping in 2016	Life Style	3.26
The Donald and the Decider	Politic	3.02
Mean (total)		2.648

Figure 12 *Choose to Be Grateful. It Will Make You Happier (Full Text with Positive Emotion languages coding applied)*

Choose to Be Grateful. It Will Make You Happier.

TWENTY-FOUR years ago this month, my wife and I married in Barcelona, Spain. Two weeks after our wedding, flush with international idealism, I had the bright idea of sharing a bit of American culture with my Spanish in-laws by cooking a full Thanksgiving dinner.Easier said than done. Turkeys are not common in Barcelona. The local butcher shop had to order the bird from a specialty f arm in France, and it came only partially plucked. Our tiny oven was too small for the turkey.No one had ever heard of cranberries.Over dinner, my new family had many queries. Some were practical, su ch as, What does this beast eat to be so filled with bread? But others were philosophical: Should yo u celebrate this holiday even if you don'tfeel grateful?
I stumbled over this last question. At the time, I
believed one should feel grateful in order to give thanks. To do anything else seemed somehow disho nest or fake a kindof bourgeois, saccharine insincerity that one should reject.
It's best to be emotionally
authentic, right? Wrong. Building the best life does not require fealty to feelings in the name of authenticity, but rather rebelling against negative impulses and acting right even when we don't feel like it. In a nutshell, acting grateful can actually make you grateful.

For many people, gratitude is difficult, because life is difficult. Even beyond deprivation and depressi on, there are many ordinary circumstances in which gratitude doesn't come easily. This point will elic it a knowing,
mirthless chuckle from readers whose Thanksgiving dinners are usually ruined by a drunk uncle who always needs to share his political views. Thanks for nothing.Beyond rotten circumstances , some people are just naturally more grateful than others. A2014 article in the journal Social Cogniti ve and Affective Neuroscienceidentified a variation in a gene (CD38) associated with gratitude. Some people simply have a heightened genetic tendency to experience, in the researchers' words, global relationship satisfaction, perceived partner responsiveness and positive emotions (particularly love). That is, those relentlessly positive people you know who seem grateful all the time may simply are mutants. But we are more than slaves to our feelings, circumstances and genes. Evidence suggests that we can actively choose to practice gratitude and that doing so raises our happiness. This is not just self-improvement hokum. For example,researchers in one 2003 study randomly assigned one group of study participants to keep a short weekly list of the things they were grateful for, while other groups listed hassles or neutral events. Ten weeks later, the first group enjoyed significantly greater life satisfaction than the others. Other studies have shown the same pattern and lead to the same conclusion. Ifyou want a truly happy holiday, choose to keep the thanks in Thanksgiving, whether you feel like it or not. How does all this work? One explanation is that acting happy, regardless of feelings, coaxes one's brain into processing positive emotions. In one famous 1993 experiment, researchers asked human subjects to smileforcibly for 20 seconds while tensing facial muscles, notably the muscles around the eyes called the orbicularis Oculi (which create crow's feet). They found that this action stimulated brain activity associated with positive emotions.

If grinning for an uncomfortably long time like a scary lunatic isn't your cup of tea, try expressing gra titude instead.According to research published in the journal Cerebral Cortex, gratitude stimulates The
hypothalamus (a key part of the brain that regulates stress) and the ventral tegmental area (part of our reward circuitry that produces the sensation of pleasure).It's science, but also common sense: Ch oosing to focus on good things makes you feel better than focusing on bad things. As my teenage kids would say, Thank you, Captain Obvious. In the slightly more elegant language of the Stoic philosopher Epictetus, He is a man of sense who does not grieve for what he has not, but rejoices in what he has. In addition to building our own happiness, choosing gratitude can also bring out the best in those around us. Researchers at the University of Southern California showed thisin a 2011 studyof people with high powerbut low emotional security (think of the worst boss you've ever had).

The research demonstrated that when their competence was questioned, the subjects tended to lash ou t with aggression and personal denigration.When shown gratitude, however, they reduced the bad behavior. That is, the best way to disarm an angry interlocutor is with a warm thank you.
I learned this lesson 10 years ago. At the time, I was an academic social scientist toiling in professoria l obscurity, writing technical articles and books that would be read by a few dozen people at most. So on after securing tenure, however, I published a book about charitable giving that, to my utter befuddlement, gained a popular audience. Overnight, I started receiving feedback from total strangers who had seen me ontelevision or heard me on the radio.

One afternoon, I received an unsolicited email. Dear Professor Brooks, it began, You are a fraud. That seemed pretty unpromising, but I read on anyway. My correspondent made, in brutal detail, a caseagainst every chapter of my book. As I made my way through the long email, however, my do minant thought wasn't resentment. It was, He read my book! And so I wrote him back rebutting a fe w of his points, butmostly just expressing gratitude for his time and attention. I felt good writing it, a nd his near-immediate response came with a warm and friendly tone.
DOES expressing gratitude have
any downside? Actually, it might: There is some research suggesting it could make you fat. A new study in the Journal of Consumer Psychology finds evidence that people begin tocrave sweets when they are asked to express gratitude. If this finding holds up, we might call it the Pumpkin Pie Paradox . The costs to your weight notwithstanding, the prescription for all of us is clear: Make gratitude a routine, independent of how you feel and not just once each November, but all year long. There are concrete strategies that each of us can adopt. First, start with interior gratitude, the practice of giving thanks privately. Having a job that involves giving frequent speeches not always to friendly audiences I have tried to adopt the mantra in my own work of being grateful to the people who come t o see me. Next, move to exterior gratitude, which focuses on public expression. The psychologist Martin Seligman, father of the field known as positive psychology, gives some practic al suggestions on how to do this. Inhis best seller Authentic Happiness, he recommends that readers systematically express gratitude in letters to loved ones and colleagues. A disciplined way to put this i nto practice is to make it as routine asmorning coffee. Write two short emails each morning to friends , family or colleagues, thanking them for what they do.Finally, be grateful for useless things. It is relatively easy to be thankful for the most important and obvious parts of life a happy marriage, healt hy kids or living in America. But truly happy people find ways to give thanks for the little, insignificant trifles. Ponder the impractical joy in Gerard Manley Hopkins's poem Pied Beauty :

Glory be to God for dappled things
For skies of couple-colour as a brinded cow;
For rose-moles all in stipple upon trout that swim;
Fresh-firecoal chestnut-falls; finches' wings;
Landscape plotted and pieced fold, fallow, and plough;
And all trades, their gear and tackle and trim.

Be honest: When was the last time you were grateful for the spots on a trout? More seriously, think of the small, useless things you experience the smell of fall in the air, the fragment of a song that remin ds you ofwhen you were a kid. Give thanks.

This Thanksgiving, don't express gratitude only when you feel it. Give thanks especially when you do n't feel it. Rebel against the emotional authenticity that holds you back from your bliss. As for me, I am takingmy own advice and updating my gratitude list. It includes my family, faith, friends and wor k. But also the dappled complexion of my breadpacked bird. And it includes you, for reading this column.

Anxiety

The top 19 Anxiety contained significant amount of Politic (8) and Health (8) theme in the content list. The less serious theme from the previous analysis like Life Style and Historical almost not exist in the Anxiety list. Even the theme that both had some in common such as Health took a sharp contrast in the nature content. Health in Positive Emotion list tend to address how to stay healthy and exercising tip, why Health in Anxiety list tend to present risk factor that can threaten one health. This combined with Political elements which tend to revolve around debate and political review, suggesting that contain with Anxiety theme overall is likely translated to content that offer critical and threat analysis. Many of which driven by fear posting by the threat or the change which might affect the people's life. The content with highest Anxiety score is Fearing Fear Itself (3.64), a political essay from New York Times opinion page, dealing with issues of Islamic terrorism in France. However, the better representative of Anxiety content is likely Coffee Tied to Lower Risk of Dying Prematurely (3.49) which comes second. Compare to Fearing Fear Itself (3.64), the latter contain almost as much level of Anxiety but also contain significantly less degree of other emotional languages (with Sadness being the only exception, more detail can be seen in Appendix F).

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Figure 13 *Top 19 Anxiety Content*

Story	Theme	Anxiety
Fearing Fear Itself	Politic	3.64
Coffee Tied to Lower Risk of Dying Prematurely	Health	3.49
Is the Drive for Success Making Our Children Sick?	Health	2.08
Fear, Loathing and Republican Debaters	Politic	1.83
Twitter Cats to the Rescue in Brussels Lockdown	Politic	1.42
Drink to Your Health (in Moderation), the Science Says	Health	1.13
How Well Do You Know Religion?	Religion	1.08
Saudi Arabia, an ISIS That Has Made It	Politic	1.01
Posture Affects Standing, and Not Just the Physical Kind	Health	1
Don't Let Kids Play Football	Health	0.94
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	Politic	0.94
Are Good Doctors Bad for Your Health?	Health	0.91

95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	Politic	0.89
End the Gun Epidemic in America	Politic	0.88
The 10 Best Books of 2015	Life Style	0.83
12 Minutes of Yoga for Bone Health	Health	0.8
Contaminating Our Bodies With Everyday Products	Health	0.79
The Brutalism of Ted Cruz	Politic	0.73
The Words That Killed Medieval Jews	Historical	0.67

Figure 14 *Coffee Tied to Lower Risk of Dying Prematurely (Full Text with Anxiety languages coding applied)*

Coffee Tied to Lower Risk of Dying Prematurely

More good news on coffee: A large study has found that drinking coffee is associated with a reduced

risk of dying from heart disease and certain other causes.Researchers followed more than 200,000 doctors and nurses for up to 30 years. The participants had periodic physical examinations and completed questionnaires on diet and behavior, including their coffee habits.The study is in Circulation.Compared with abstainers, nonsmokers who drank a cup of coffee a day had a 6 percent reduced risk of death, one to three cups an 8 percent reduced risk, three to five cups a 15 percent reduced risk, and more thanfive cups a 12 percent reduced risk. There was little difference

whether they drank caffeinated or decaffeinated coffee. The association persisted after controlling for age, alcohol consumption, B.M.I. and other health anddiet factors.

Coffee drinking was linked to a reduced risk of death from heart disease, stroke, diabetes, neurological diseases and suicide, although not from cancer.The association was not apparent in smokers, probably because death from smoking-related causes overwhelms the positive effect of coffee drinking. While the findings are encouraging, the lead author, Dr. Ming Ding, of the Harvard School of Public

Health, cautioned, Our study is observational, so it's hard to know if the positive effect is causal or not.

Chulalongkorn University

Anger

Anger followed fairly similar pattern to Anxiety. Politic very prominent in Anger list (9), follow by Religion (4). All of which contain critical topic, religion extremism, criticism of election candidate, war and conflict etc. Interesting enough, Life Style topic is founded more in Positive Emotion also existed in Anger list. Most, however are concentrated on lower echelon of the table. Content which received

the strongest score on Anger is End the Gun Epidemic in America (4.38). The score is significantly greater than the second and third highest score (2.5 and 2.4 respectively) and much higher than the average (0.632). The Anger score also prominent in comparison to the rest of emotional variables. For this reason, it is chosen as example to demonstrate content in Anger category.

Figure 15 *Top 19 Anger Content (Full Text with Anger languages coding applied)*

Story	Theme	Anger
End the Gun Epidemic in America	Politic	4.38
The Words That Killed Medieval Jews	Historical	2.5
Saudi Arabia, an ISIS That Has Made It	Politic	2.4
The Brutalism of Ted Cruz	Politic	1.95
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	Politic	1.88
Fearing Fear Itself	Politic	1.76
How Well Do You Know Religion?	Religion	1.55
Finding Peace Within the Holy Texts	Religion	1.47
Fear, Loathing and Republican Debaters	Politic	1.46
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	Historical	1.4
How Do Sunni and Shia Islam Differ?	Religion	1.32
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	Politic	1.22
Goose-Steppers in the G.O.P.	Politic	1.17
The Big Short,' Housing Bubbles and Retold Lies	Economic	1.11
100 Notable Books of 2015	Life Style	0.95
A Medieval Antidote to ISIS	Religion	0.93
The Best Movies of 2015	Life Style	0.91
Why I Will Never Vote for Donald Trump	Politic	0.85
The Best TV Shows of 2015	Life Style	0.8
Mean (total)		0.632

Chulalongkorn University

Figure 16 *End the Gun Epidemic in America (Full Text with Disgust languages coding applied)*

End the Gun Epidemic in America - The New York Times
All decent people feel sorrow and righteous fury about the latest slaughter of innocents, in California. Law enforcement and intelligence agencies are searching for motivations, including the vital questio n of how the
murderers might have been connected to international terrorism. That is right and proper.
But motives do not matter to the dead in California, nor did they in Colorado, Oregon, South Carolina , Virginia, Connecticut and far too many other places. The attention and anger of Americans should al so be directed atthe elected leaders whose job is to keep us safe but who place a higher premium on th e money and political power of an industry dedicated to profiting from the unfettered spread of ever more powerful firearms.

It is a moral outrage and a national disgrace that civilians can legally purchase weapons designed specifically to kill people with brutal speed and efficiency. These are weapons of war, barely modifie d and deliberatelymarketed as tools of macho vigilantism and even insurrection. America's elected lea ders offer prayers for gun victims and then, callously and without fear of consequence, reject the most basic restrictions on weapons ofmass killing,as they did on Thursday. They distract us with argument s about the word terrorism. Let's be clear: These spree killings are all, in their own ways, acts of terrorism.

Opponents of gun control are saying, as they do after every killing, that no law can unfailingly foresta ll a specific criminal. That is true. They are talking, many with sincerity, about the constitutional chall enges to effectivegun regulation. Those challenges exist. They point out that determined killers obtain ed weapons illegally in places like France, England and Norway that have strict gun laws. Yes, they d id.
But at least those countries are trying. The United States is not. Worse, politicians abet would-
be killers by creating gun markets for them, and voters allow those politicians to keep their jobs. It is

past time to stop talkingabout halting the spread of firearms, and instead to reduce their number drasti cally eliminating some large categories of weapons and ammunition.
It is not necessary to debate the peculiar wording of the Second Amendment. No right is unlimited an d immune from reasonable regulation.

Certain kinds of weapons, like the slightly modified combat rifles used in California, and certain kind s of ammunition, must be outlawed for civilian ownership. It is possible to define those guns in a clea r and effective wayand, yes, it would require Americans who own those kinds of weapons to give th em up for the good of their fellow citizens.What better time than during a presidential election to sho w, at long last, that our nation has retained its sense of decency?

Disgust

Disgust also contains significant amount of Politic topic (7), however unlike the other two, most seem to be concentrated on lower echelon where score is lower. The list also contained significant of Life Style (5) as well as Historical topic (3) which are not typically presented in negative emotion content. Indeed, most of this content is in fact, containing much stronger on Positive Emotion. This is likely the result of having less presence in the finding in general. None of articles in the list have Disgust as dominant emotion (as well as in the rest of the collected data see Appendix F for more detail). Most of the top Disgust content also stronger Positive Emotion, including the first and second place in the list (Goose-Steppers in the G.O.P. and Choose to Be Grateful. It Will Make You Happier.) Because of this reason, this paper decided to select Are Good Doctors Bad for Your Health? (1.35), the 6th place in the list instead as the example. This content stronger Negative Emotion (which is the base for Disgust) than Positive Emotion and also still contain relatively stronger score in the list.

It is important to note that Disgust is simply Negative Emotion minus the effect of Anger, Anxiety, and Sadness. Disgust emotional languages that displayed here are therefore; comprised of Negative Emotion word that unique from Anger, Anxiety, and Sadness in LIWC dictionary (no Disgust category is originally given).

Figure 17 *Top 19 Disgust Content*

Story	Theme	Disgust
Goose-Steppers in the G.O.P.	Politic	1.83
Choose to Be Grateful. It Will Make You Happier.	Health	1.64
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	Historical	1.55
The Words That Killed Medieval Jews	Historical	1.51
The Typical American Lives Only 18 Miles From Mom	Social	1.48
The Christmas Revolution	Historical	1.41
Are Good Doctors Bad for Your Health?	Health	1.35
The Best TV Shows of 2015	Life Style	1.34

95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	Politic	1.18
How Do Sunni and Shia Islam Differ?	Politic	1.12
52 Places to Go in 2016	Life Style	1.1
Twitter Cats to the Rescue in Brussels Lockdown	Politic	1.05
Who Turned My Blue State Red?	Politic	1.01
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	Politic	0.95
A Wealthy Governor and His Friends Are Remaking Illinois	Politic	0.93
The Best Movies of 2015	Life Style	0.88
Your iPhone Is Ruining Your Posture — and Your Mood	Life Style	0.86
Posture Affects Standing, and Not Just the Physical Kind	Life Style	0.86
Dear Powerball Winner: Take Our Advice and Take the Annuity	Social	0.8
Mean (total)		0.619

Figure 18 *Are Good Doctors Bad for Your Health?*

Are Good Doctors Bad for Your Health?
PRETTY regularly, I receive an urgent call from a distraught friend or friend of a brother. Zeke, Mom was at home and her heart stopped. The E.M.T.s are rushing her to XYZ hospital in Miami. Can you help me findthe best cardiologist there for her? Get me the best cardiologist is our natural response to any heart wrong. Unfortunately, it is probably wrong. Surprisingly, the right question is almost its exact opposite: At which hospital are all the famous,senior cardiologists away?
One of the more surprising and genuinely scary research papers published recently appeared in JAMA Internal Medicine.It examined10 years of data involving tens of thousands of hospital admissions. It found that patients with acute, life-threatening cardiac conditions did better when the senior cardiologists academic were out of town. And this was at the best hospitals in the United States, our teaching hospitals. As the articleconcludes, high- risk when cardiologists were away from the hospital attending national cardiology meetings. And the patients with heart failure and cardiac arrest, hospitalized in teaching hospitals, had lower 30-day mortality differences were not trivial mortality decreased by about a third for some patients when those top doctors were away. Truly shocking and counterintuitive: Not having the country's famous senior heart doctors caring for you might increase your chance of surviving a cardiac arrest.The researchers did interesting checks to be sure the results were valid. They noted that there was no difference in mortality from heart conditions when physicians were attending thecanceror orthopedic meetings,presumably because the oncologists and orthopedic surgeons, not cardiologists, attended those meetings and don't care for patients with heart wrongs. And when the cardiologists were at their national meetings,there were no changes in mortality from nonheart conditions such as hip fractures. Overall for all heart conditions examined, patients cared for at the teaching hospitals did significantly better than those cared for in community hospitals. So choosing a teaching hospital, when possible, makes a difference.

It is not clear why having senior cardiologists around actually seems to increase mortality for patients with life- threatening heart problems. One possible explanation is that while senior cardiologists are greatresearchers, the junior physicians recently out of training may actually be more adept clinically. Another potential explanation suggested by the data is that senior cardiologists try more interventions. When thecardiologists were around, patients in cardiac arrest, for example, were significantly more likely to get interventions, like stents, to open up their coronary blood vessels. This is not the only recent finding that suggests that more care can produce worse health outcomes. A study from Israel of

elderly patients with multiple health problems but still living in the community tried discontinuing medicines to see if patients got better. Not unusual for these types of elderly patients, on average, they were taking more than seven medications.
In a systematic, data- driven fashion, the researchers discontinued almost five drugs per patient for more than 90 percent of the patients. In only 2 percent of cases did the drugs have to be restarted. No patients had serious side effects and no patients died from stopping the drugs. Instead, almost all of the patients reported improvements in health, not to mention the saving of drug money. We both physicians and patients usually think more treatment means better treatment. We often forget that every test and treatment can go wrong, produce side effects or lead to additional interventions that themselves can go wrong. We have learned this lesson with treatments like antibiotics for simple medical problems from sore throats to ear infections. Despite often repeating the mantra First, do no harm, doctorshave difficulty with doing less even nothing. We find it hard to refrain from trying another drug, blood test, imaging study or surgery. There are potential policy solutions. One would require that doctors, provide patients with data about a procedure, including its rate of success, complications and the like before every major intervention. A solution for overmedication, especially in older people, would be to require that doctors attempt to discontinue medications at least once a year.
One thing patients can do is ask four simple questions when doctors are proposing an intervention, whether an X- ray, genetic test or surgery. First, what difference will it make? Will the test results change our approach to treatment? Second, how much improvement in terms of prolongation of life , reduction in risk of a heart attack or other problem is the treatment actually going to make? Third, how likely and severe are the sideeffects? And fourth, is the hospital a teaching hospital? The JAMA Internal Medicine study found that mortality was higher overall at nonteaching hospitals.
It is surprising how uncomfortable some physicians get when you ask these questions. No one likes to be second-guessed or have to justify their decisions. But studies show that when patients are systematically given information about benefits and risks they tend to consent to fewer interventions and feel more informed about their decisions. So when your mother is being rushed to the hospital, it might be best not to seek the most famous senior doctor, but to ask those four questions.
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Sadness

Also exist in similar fashion to Disgust, in which there are no instances where Sadness is the dominant variables in articles. Most of the contents in this list, including the upper echelon, consisted of Politic topic (9) followed by Life-Style (4) but with Health and Scientific occupied the 3 highest positions. Like, Disgust, most of these top articles tend to score higher in Positive Emotion with Choose to Be Grateful. It Will Make You Happier (1.39) again received the highest score. This is likely due to the fact that Sadness sentiment in language existed in much fewer numbers in

comparison to other emotional variables (score the lowest on total average at 0.35). As the result, most of these contents on the list tend to follow a rather weaker pattern in comparison to other emotional languages. Doctors Unionize to Resist the Medical Machine (1.05) is chosen to represent Sadness instead of the first place holder Choose to Be Grateful (1.39). Comparing to the latter Doctors Unionize to Resist the Medical Machine (1.05) received only slightly less Sadness score while also score higher than other negative emotional variables (and is less outperformed by Positive Emotion at 2.85 rather than 7.55).

Figure 19 *Top 19 Sadness Content*

Story	Theme	Sadness
Choose to Be Grateful. It Will Make You Happier.	Health	1.39
Doctors Unionize to Resist the Medical Machine	Health	1.05
A Century Ago, Einstein's Theory of Relativity Changed Everything	Scientific	0.87
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	Politic	0.83
End the Gun Epidemic in America	Politic	0.76
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	Politic	0.75
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	Politic	0.72
A Wealthy Governor and His Friends Are Remaking Illinois	Politic	0.63
The Lawyer Who Became DuPont's Worst Nightmare	Politic	0.63
Dear Powerball Winner: Take Our Advice and Take the Annuity	Social	0.6
Elections Have Consequences	Politic	0.59
Posture Affects Standing, and Not Just the Physical Kind	Life-style	0.58
Are Good Doctors Bad for Your Health?	Life-style	0.54
The Donald and the Decider	Politic	0.54
How to Cultivate the Art of Serendipity	Life Style	0.52
The Words That Killed Medieval Jews	Historical	0.5
100 Notable Books of 2015	Life Style	0.5
Privilege, Pathology and Power	Social	0.49
How Well Do You Know Religion?	Politic	0.48
Mean (total)		0.35

Figure 20 *Doctors Unionize to Resist the Medical Machine*

Doctors Unionize to Resist the Medical Machine

Early in the morning on Aug. 12, 2015, a 68-year- old man named Barry turned up at Peace Health Sacred Heart Medical Center in Springfield, Ore., confused and feverish.

The case was not a candidate for even a minor subplot on House. The admitting doctor stopped one of the patient's medications and inserted an IV to deliver fluids, and by late the next morning, he had largely recovered.

Still, Dr. Rajeev Alexander, the hospitalist who took over his care, was determined to make an accurate diagnosis. For nearly half an hour, Dr. Alexander, a perpetually rumpled man, chatted with Barry and Linda, his sister, about the events that had landed him in the hospital, the food processing plant where he once worked, thestroke that had impaired his mind. It was a very scary night last night, Linda, his caretaker, said. He was just sitting on the floor, like you would sit a 6-month- old when they haven't got their balance.

Dr. Alexander considers it proper technique to review each mundane detail with a patient. He is full of scorn for the eureka style of medical diagnosis depicted on television, and by his own admission, he reads a CTscan with the sophistication of a barber.

Eventually, Dr. Alexander would discard the more exotic theories that had crossed his mind meningitis, or possibly a condition known as serotonin syndrome and settle on a far simpler malady: dehydration, whichaggravated a chronic kidney problem.

He was nonetheless unapologetic about the time he had invested.
Real life is all about the narrative, he said. It's sitting down and talking about bowel movements with a 79-year-old woman for 45 minutes. It's not that interesting, but that's where it happens.
Dr. Alexander's method is at the center of an emotional debate in medicine, in which the imperative to increase efficiency in a high- cost health care system is often at odds with the deference traditionally accorded to doctors.

It's a debate that came home to Sacred Heart in the spring of 2014, when the administration announced it would seek bids to outsource its 36 hospitalists, the hospital doctors who supervise patients' care, to amanagement company that would become their employer.

The outsourcing of hospitalists became relatively common in the last decade, driven by a combination of factors. There is the obvious hunger for efficiency gains. But there is also growing pressure on hospitals tomeasure quality and keep people healthy after they are discharged. This can be a complicated data collection and management challenge that many hospitals, especially smaller ones, are not set up for and that some out sourcing companies excel in.

They assure you of relief of some headaches, said Dr. John Nelson, a past president of the Society of Hospital Medicine. He compared outsourcing doctor groups to a management company to hiring a lawnservice. You're relieved of having to get the mower out. You're not necessarily assured that you're happier with your yard. In recent years, according to the society, 25 to 30 percent of hospitalists have worked formultistate management companies, which also employ doctors in other disciplines, like anesthesiology and emergency medicine.

Dr. Rajeev Alexander, a hospitalist at PeaceHealth. His painstaking method of diagnosing patients' maladies is viewed as inefficient by some who seek to cut costs.
Outsourced hospitalists tend to make as much or more money than those that hospitals employ directly, typically in excess of $200,000 a year. But the catch is that their compensation is often tied more directly to thenumber of patients they see in a day which the hospitalists at Sacred Heart worried could be as many as 18 or 20, versus the 15 that they and many other hospitalists contend should be the maximum. (Mark Hamm,executive vice president of EmCare, a physician services firm based in Dallas that has no connection to Sacred Heart, said the hospitalists employed by many staffing companies typically see 15 to 18 patients a day,though he said that was true of those who were directly

employed by hospitals as well.)

It was the idea that they could end up seeing more patients that prompted outrage among the hospitalists at Sacred Heart, which has two facilities in the area, with a total of nearly 450 beds. We're doctors, we'reprofessionals, Dr. Alexander said. Giving me a bonus for seeing two more patients I'm not sure I should be doing that. It's not safe. (A hospital representative said patient safety was inviolate.)

Some Sacred Heart hospitalists left for other jobs, and the rest formed a union, one of the first of its kind in the country.To everyone's surprise, Sacred Heart's administration agreed to junk its outsourcing plan, but this retreat did not usher in a love fest. Instead, there has been a long, grinding negotiation with the administration over theproper role of the hospital doctor, which continues to this day.
Dr. Alexander and his colleagues say they are in favor of efficiency gains. It's the particular way the hospital has interpreted this mandate that has left them feeling demoralized. If you talk to them for long enough, youget the distinct feeling it is not just their jobs that hang in the balance, but the loss of something much less tangible the ability of doctors everywhere to exercise their professional judgment.

A Job Born of Efficiency

As recently as the mid-1990s, there was no one called a hospitalist. Most doctors would simply scramble from their offices to the hospital when they had to tend to patients there. But the discipline grew rapidlythereafter to roughly 50,000 hospitalists nationwide in 2015 from about 11,000 in 2003, according to industry estimates.

The hospitalist boom was itself a response to economic pressures and a push for efficiency in health care. Internists were seeing more patients in their offices in a day, partly thanks to the rise of managed care andsmaller margins, making it less practical to run to the hospital. It became difficult to plan your day, said Dr. Frank Littell, a Sacred Heart hospitalist who has been practicing in the area since the 1980s. If a patientneeded to be admitted to the E.R., you had to cancel all your afternoon appointments.

Gradually, it became clear that it would make more sense for a subset of internists to be based at each hospital, where they would handle the care of all the patients on site. The other internists could end their periodic hospital visits altogether.

Hospitalists could also increase hospital profits. They were on hand to discharge people throughout the day, emptying beds that could generate revenue again. And while paying the doctors was a new cost, hospitals atfirst found the efficiencies so advantageous that hospitalists were afforded the rare privilege of spending more time with patients. The doctors spent the time diagnosing and treating what were often highly complicatedconditions chronic health problems stacked on top of one another, or multiple organ failures.

This reprieve from the economic forces bearing down on the medical profession didn't last long, however. A consequence of how much the health care market has changed is that everybody has to be moreefficient, said Adam Higman, who specializes in hospital operations at Soyring Consulting in St. Petersburg, Fla. He noted that the increasing focus on metrics like readmission rates and hospital-acquired infectionshad created more work for hospitalists, who are responsible for a lot of documentation. In some sense that comes to the detriment of the patient, there's not as much quality time, he said. In some sense, that's totheir benefit there's a system to manage them.

Asked if health outcomes had improved as a result, Mr. Higman said, Readmission rates have been reduced we can show it. Costs are rising more slowly too, he said, no small thing in a country where manypeople are bankrupted by medical expenses. But, he added, as to whether you as an individual are seeing better quality in health care I think there's some question there.

Choosing to Unionize

In 2012, Sacred Heart's parent, PeaceHealth, a nonprofit health care system, installed an executive named John Hill to adapt its Oregon hospitals to the latest trends in health care. Mr. Hill, in an effort to rein in thebudget and improve the efficiency of a hospital that administrators said was lagging in key respects, including how long the typical patient stayed, eventually concluded that the hospitalists at Sacred Heart should be outsourced.

The basic accounting problem for hospitalists is that they are not a profit center. That is, when they treat patients, the amount a hospital can bill Medicare and insurance companies is typically less than what the hospitalmust pay them. The opposite is true for other specialists, like surgeons.
So it was no surprise when, in the spring of 2014, one of Mr. Hill's colleagues came before the hospitalists and confirmed that the company would request bids for outsourcing their group. Still, the room erupted in angerand despair. The doctors were convinced that working for a management company would mean seeing many more patients per shift, and they worried about losing their jobs if they resisted.
Amid the groaning, a relatively new member of the group named Dr. David Schwartz observed, They can't fire all of us there are unions. This was a bit of a stretch: While there are hospitals around the countrywhose doctors are unionized, there did not appear to be a union anywhere composed of a single group of specialists. But Dr. Schwartz, a barrel-chested man with close- cropped hair and a bushy beard who would notlook out of place at a graduate English seminar, thought unionizing might be worth a try.

At the time, it was only one of several options the doctors considered. They talked of forming an independent hospitalists group, of forming an alliance with an outsourcing firm of their choosing. But the alternatives gradually fell away for a variety of practical reasons, and the doctors were growing increasingly bitter.

Dr. Littell developed a riff, which the other hospitalists appropriated, about how the situation was like having your spouse of several decades announce he or she was going to play the field. You've been great, you'vealways been there, he would joke. I just heard there could be better spouses out there. The kicker: The good news is, you're in the running, too!

Several doctors could not find it within themselves to be amused and gave notice. Eventually, about a third of the 36 in the group left. The hospital replaced many of them with contractor doctors, called locums.

By the time the doctors decided to hold their union election, almost all of them had become, if not pro-union, then convinced they had no better options. In early October they voted overwhelmingly to form a union thatthey chose to affiliate with the American Federation of Teachers, which already represented nurses at Sacred Heart.

By March 2015, the PeaceHealth leadership, whatever its interest in efficiency gains, was apparently not pleased that one of its hospitals had a white- collar labor insurrection on its hands. The company announced thatit would not outsource the hospitalists, a move it later said was always a possibility. Mr. Hill, who declined to comment, left in May. But backing down on outsourcing did not mean the hospital had given up on getting more out of its doctors.

Skin in the Game'

To work in a hospital today is to be constantly preoccupied with money, and one of the more grating features as far as the Sacred Heart hospitalists are concerned has been the administration's celebration of skin inthe game. That means creating financial incentives for doctors to hit performance targets like lowering patient's length of stay and doing well on patient satisfaction surveys. The phrase entered the Sacred Heartlexicon in 2014, but the underlying concept has spread throughout the profession in recent years.

Dr. Robert M. Wachter, chief of the division of hospital medicine at the University of California, San

Francisco, says many hospitals now give doctors financial incentives to perform well according to the criteria on whichthe hospitals themselves are judged under the Affordable Care Act for example, reducing hospital- acquired infections. But there is an active debate in the profession over their utility. If at the end of the year, 10percent of your salary is at risk based on whether you have consistently clean hands, what patients say about you, readmission rates, that can be O.K., he said. The counterargument is that you could screw thingsup by tying everything to financial incentives, he said. You stomp on their intrinsic motivation.

The hospitalists also chafe at the way the administration has tried to centralize decisions they used to make for themselves. This might include hiring fellow doctors or the order in which they see patients on any day.They also complain of being loaded down with administrative tasks.

Dr. David M. Schwartz, a hospitalist at PeaceHealth Sacred Heart Medical Center in Springfield, Ore., first suggested forming a union to resist a move to outsource the hospital doctors.
We're trained to be leaders, but they treat us like assembly line workers, said Dr. Brittany Ellison, a hospitalist in the group. You need that time with the patient, where his wife is ratting on him.
For the most part, Dr. Alexander has accepted this state of affairs stoically, albeit with his trademark sardonic humor. At one point he told me that a patient with dissociative disorder was on her way to a psychiatrichospital, before observing: Often people with dissociative disorder become managers. You have to treat people like things. A different way of saying it is sociopath. His personal rebellion is to linger over patients as long as he thinks it's necessary, the hell with the performance metrics that nudge him to see more. But just beneath his fatalism, an anger occasionally flares up. What's the widget the hospital produces? he asked at one point. It's the doctor- patient relationship. You don't improve it with extra little tasks.

A few weeks after I got back from Oregon, I spoke by phone with Rand O'Leary, who was promoted to oversee PeaceHealth's hospital services in the state last summer. He was genial and disarmingly sympathetic tothe hospitalists' concerns. He said his negotiators and the union had been dialoguing around a compensation model that would award doctors a bonus for hitting certain performance targets the dreaded skin inthe game. The targets would include how many patients they see, but would also include measures of patient health and satisfaction.

It can't be all based on production, he told me. It has to be quality safety, a good experience. If you're the patient in the bed, it's important to you that you're treated as an individual, that your needs are beingmet. Mr. O'Leary was especially proud of a ritual known as REAL rounds, which stands for rounding embraced by all leaders, in which administrators circulate through a different unit of the hospital each week and talk todoctors, nurses and other caregivers about their needs.

Disconnect at the Table

If Dr. Alexander's medical experience has instilled a kind of fatalism, Dr. Schwartz's has made him skeptical about human nature. During a morning of rounds, I couldn't help noticing he was constantly on alert for waysthat a patient's version of events might not track. You have to take what people say with a grain of salt, he later explained. Especially if the story changes, or is inconsistent, I get a little suspicious and assume the worst.

This is not just true of patients. Noting that the negotiations with the hospital administration have dragged on for roughly a year, Dr. Schwartz said, It's pretty obvious that they don't want to get a contract done. Hesays the administration worries that if it essentially rewards the hospitalists with a contract, it encourages other hospital workers to unionize too.

Dr. Schwartz said he and his colleagues have always wanted to talk about staffing ideally, they wanted to agree on a minimum proportion of doctors to patients and how this affected patient safety. But when they raisedthese issues in the past, he said, the administration frequently shut down or retreated to marginal details.

Debra Miller, the system vice president for labor and caregiver relations, told me that PeaceHealth had

never resisted the right of its employees to organize and bargain through a third party, and that there were manywho did, like nurses and dietary workers. She said that it was standard for the first contract with newly unionized workers to take more than a year to negotiate and that this case presented special challenges. Therearen't a lot of hospital- based physicians unionized, she said. I think the union themselves are trying to find their way over how to deal with it.

As for some of the central issues, like staffing, Mr. O'Leary said in December that the two sides had made progress, but there were certain proposals the hospital simply couldn't accommodate, like a minimum ratio ofdoctors to patients at all times, which would be difficult to maintain during emergencies. We have to be able to respond to the demands of the community 365 days a year, he said, citing the example of the massshooting last year at a nearby Oregon community college. Getting to a hard number is a great goal, but it's not likely that can happen in our business. (In a bargaining session on Friday, the negotiators neared acompromise in which a committee that includes doctors would weigh in on staffing.)

Even starker than the divide over these questions are the differences in worldview represented on opposite sides of the table. During a bargaining session last fall, the administration proposed increasing the number ofshifts a year. Hospitalists now earn about $223,000 a year for 173 shifts and are paid extra for working more. The hospital offered $260,000 for a mandatory 182 shifts, and up to $20,000 in bonus pay for hitting certainmedical performance targets. The hospitalists work seven days on and seven days off, so this would have effectively eliminated any time off for sick days or vacation.When the doctors pointed this out, the administration responded that if they missed a few days, it would make sure they got extra days to hit the required number of shifts for full pay.

The hospitalists assured the administration negotiators that their concern had nothing to do with money that none of this had ever been about money. They preferred to work less and make less to avoid burnout, whichwas bad for them and worse for patients. At which point the administration responded that money was always the issue, according to several people in the room. (The hospital declined to comment.) Suddenly it dawned on the doctors why they had failed to break through, Dr. Alexander said.

Imagine Mr. Burns, the cartoonishly evil capitalist from The Simpsons, sitting across the table, he said. There's no way we can say, This isn't what we're talking about. We're not trying to get the bonus.'
Everything Is on the Line'

One afternoon I had a drink with Dr. Alexander and Dr. Schwartz at a restaurant near the hospital. Dr. Schwartz was reacquainting himself with civilian life after working nine days straight, and both men were wearinguntucked button-down shirts and looking much more relaxed than they had at work.
It didn't take long, however, before they began to trade stories of outrage suffered at the hands of their hospital overlords. Both men were particularly exercised about the REAL rounds that the administration saidgave it insight into how the hospital workers did their jobs.

One day when I was not in one of my better moods, the chief nursing officer showed up and asked, Care to join us for REAL rounds?' Dr. Schwartz said. I was like, Are you kidding me? Real rounds, as opposed to what we do?'

The conversation turned, inevitably, to the dreaded skin in the game. I wanted to know what, exactly, they considered so offensive about having a financial stake in the hospital's performance.
Dr. Schwartz responded by recounting the first time he had heard the expression, at a meeting with the hospital's board of directors. A local businessman on the board had used the phrase while emphasizing the importance of providing the proper incentives for the doctors.

It really took all of my self-control to not say, What the hell do you mean skin in the game? ' he said. We have our licenses, our livelihoods, our professions. Every single time we walk up to a patient, everythingis on the line. He continued: My thought was, I'll put some of my skin in the game if you put your name on that chart. Just put your name on the chart. If there's a lawsuit, you're on there. You come

down and make a decision about

4 – 6 Cubical Content and Potential Cause

Cubic was one of the rare traits of the chart behavior that was included as part of the larger bouncing factors introduced to capture the effect of complex behavior in sampled articles. Many of the charts did exhibited graphic quadratic function as both midimax (downward parabolic) and midimin (upward parabolic). Very few articles, however were displayed as "cubic" (having both midimax and midimin at the same time), thus forming up and down parabolic movement in the chart. In fact, of all 71 unique articles gathered for this study, only three were considered true cubic function. These cubic articles were consisted of 52 Places to Go in 2016, Saudi Arabia, an ISIS That Has Made It, and The 10 Best Books of 2015.

As mentioned earlier, correlation analysis had shown that popularity influenced sustaining factors while sustaining factors influenced bouncing factors. And so the cubic function displayed in this study was likely somehow correlated to sustaining and subsequent popularity of the article. Only popular articles with extensive shared can remain longer in the list, only one that stay longer in the list can have the chart with both rising up and falling down shape, articles that stay there only for couple of hours could not form cubic because they would be gone long before cubic would start to form. Understanding the nature of cubic, the chart would therefore be potential related to nature of share-ability itself.

One interesting point to note is that, while cubic as part of bouncing factors did relate to sustaining and popularity, an article with a lot of N (number of hours) did not necessarily result in cubic. All three cubic articles did have above average number of a hours on the list (N on average was roughly 100 hours), however many more articles with similar N (or even greater) did not result in cubic graph. All 3 cubic articles did share one common characteristic that is the prominent of their emotional traits. Emotion scores obtained from these 3 articles were always clear toward one particular emotion, the 52 Places to Go in 2016 and The 10 Best Books of 2015 scored prominently well on Positive Emotion, while Saudi Arabia, an ISIS That Has

Made It clearly scored high on anger, much more so than any other variable produced via LIWC.

Figure 21 *Emotion Variable Reading of the 3 Cubic Articles*

Article Title	Positive	Negative	Anxiety	Anger	Sad	Disgust
52 Places to Go in 2016	2.48	0.36	0.06	0.12	0.17	0.01
Saudi Arabia, an ISIS That Has Made It	1.77	4.55	1.01	2.4	0.13	1.01
The 10 Best Books of 2015	2.39	2.58	0.83	0.64	0.83	0.28

The result of this study suggested, that the emotion variables seem to affect the performance of cubic articles in the same way they did with other content. The positive-forward articles like the 52 Places to Go in 2016 and The 10 Best Books of 2015 had risen up and plateau for an extended period of time before going down (the former also even rises up again once before completely faded). In comparison, Saudi Arabia, an ISIS That Has Made It took significantly less time at the peak and also entered a significantly longer period of decline. This behavior echoed the effect of Positive Emotion variables that was previously found to have strong effect on popularity factors.

The 52 Places to Go in 2016 and The 10 Best Books of 2015 were also interestingly shared characteristic of being rather comprehensive articles. Both provided a list of suggestion, both covered wide range of objects (several suggested travel destinations, several suggested books) and also a lot of links to other web pages or articles. These kind of articles might serve as “portal” for user to navigate to the content they need which might explain the reason why they formed a complex

cubic behavior (as people might disregard them for some time but ultimately come back even when they had already shared it once). Over 40,000 characters were used in the 52 Places to Go in 2016 and nearly 6,000 in The 10 Best Books of 2015which was rather large (particularly the former). In comparison, only 4,000 character were used in Saudi Arabia, an ISIS That Has Made It

Alternatively, these might just have been a coincidence. It should be noted that the lack of cubic behavior in the rest of the chart was not due to those articles being forever popular (after all, these are the top 5 most emailed articles from the list of top 25 most emailed articles of one of the most circulated newspaper in the world). The fall of the articles was just so dramatic, they were sinking out (of top 5, which might still be in top 25) in a much fewer hours than the ones that were forming cubes. Still, the reason why the decline of some articles was retarded enough as to be picked up as cubical chart while other were not was still an interesting question that could be explored with additional research.

Figure 22 *Ranking Chart from the 52 Places to Go in 2016*

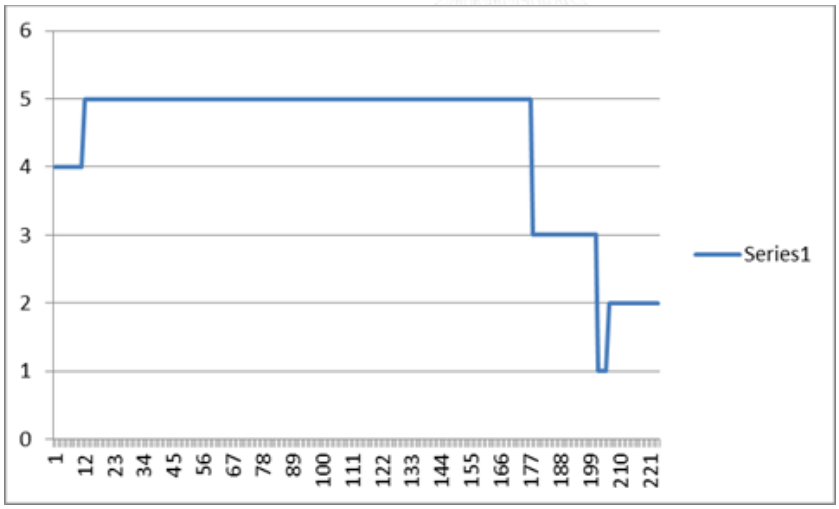


Figure 23 *Ranking Chart from Saudi Arabia, an ISIS That Has Made It*

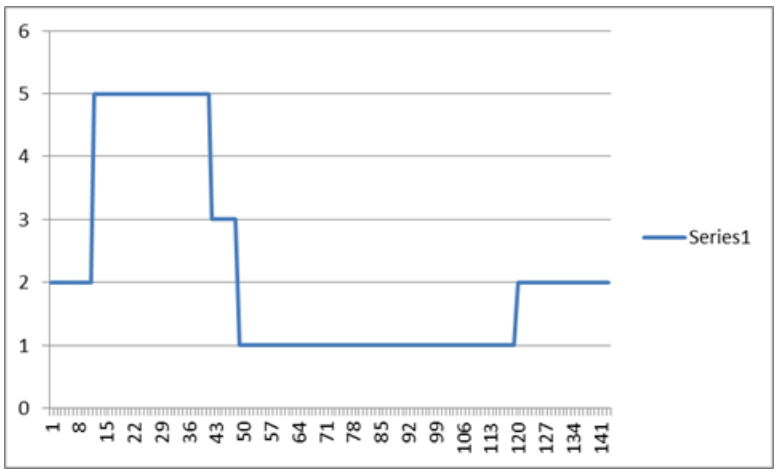
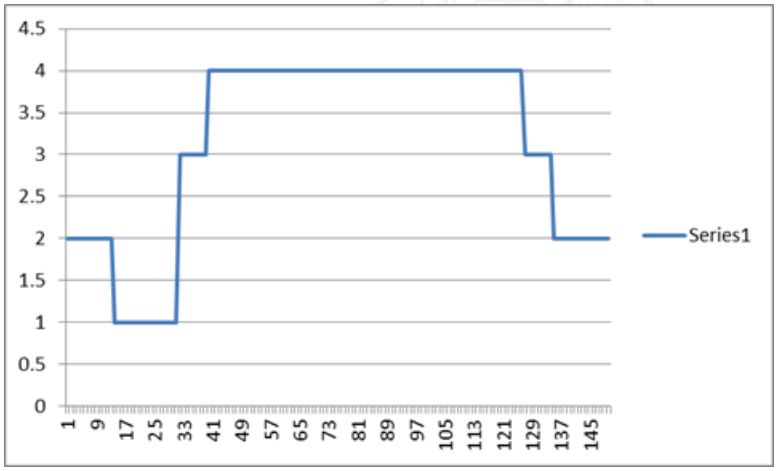


Figure 24 *Ranking Chart from The 10 Best Books of 2015*



4 – 7 Research Question

The main question this paper seek to answer if whether core affect in emotional language have effect on share-ability of online content, and for the most part, this paper found that the said affects did indeed manifest effect in various way.

RQ1 Does Valence Aspects of Emotional Languages Affects the Share-ability of Content?

Valence was found to produce effect on share-ability. Both positive and negative valences were shown to be associated with various measurements and indicator in this study. However, the both sides of the valence manifested their effect in a different ways and magnitude.

Positive valence was founded to produce significantly stronger effect on share-ability than negative valence but also uniquely found to be stabilizing factor in the rise of popularity. The evidence for this conclusion was derived from the fact that, at 2.648, the Positive Emotion yielded on average more than twice as much as the individual strongest negative variable (Anger, at 0.632) and significantly stronger than Negative Emotion variables as a whole (2.135). These finding confirmed the general believed that Positive Emotion definitely associated more with share-ability and possibly virality, than negative valence.

This paper also found that one aspect of positive valence exhibited through Positive Emotive emotion that was rather unique among other similar studies – the relationship to linearity. Linearity is an indicator of the stable formation of chart, and thus Positive Emotion relationship to Linearity is a possible link to its role as stabilizing factor in the rise of sharable content. Positive Emotion is also unrelated positively to any other measurements which might indicated a possible shorter term rise in comparison to other dimension of affect. The combination of these two findings hinted at a completely new outlook into the positivity dimension of affect. A strong , short term rise, which yield consistent result every time might indicate the lack of strong interest in the matter and possibly indicate a “hype” style of sharing that depends heavily on the latest trend by less committed readership. This might be a double edge sword for content creator, especially among online news platform who might want to attract a more serious segment of readership like policy makers and analysis.

Negative valence on the other hands, was found to produce inconsistent result but had less positive effect on share-ability measurement in general. 3 out of 4 negative emotional variables produced acceptable effect on share-ability measures (Anger, Anxiety, Disgust) while only one was founded to not produce any notable effect (Sadness). Negative valence, however, seem to produce consistently stronger

effect on sustaining measure (especially on near acceptable level effect), than positive valence with Anxiety, Disgust, and Sadness all scored near acceptable level on correlation (all scored higher than 0.08 compare with Positive Emotion 0.05). Even Anger (0.066) which produced less than acceptable effect on sustaining measure, still nominally higher than Positive Emotion. Some of the negative valence also produced acceptable effect on Linear. Only two of them were founded this category (Disgust, and Sadness) which might suggested a less conclusive evidences. Negative valence in general seem to produce less consistent result with at least one variable not performing as the rest of the group which might suggest stronger degree of randomness in their performances.

In conclusion, valence was founded by this study to be both associated with share-ability of content. However, positive valence was found to produce stronger, more stable and more likely to manifest directly as number of shares. Negative valence produce weaker and more radical in development but was found to produce more affect toward persistency of sharing and more likely to affect serious perception of the content. However, the it was also likely to produce less consistent result compare to the former.

RQ2 Does Valence Aspects of Emotional Languages Affects the Share-ability of Content?

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Activation in emotional language was found to have effect on share-ability while deactivation doesn't produce any notable effect. The effect of activation on share-ability manifested itself in a more different way than positive valence.

Activation in general show consistent effect on share-ability with all of the employed Activating Negative Emotion displayed acceptable effect on our measurement of share-ability. Both Anxiety and Anger displayed acceptable correlation to bounce (0.128. and 0.166, respectively) while Disgust show acceptable correlation to popularity measures itself (1.29). This finding showed displayed relatively strong link that activating emotional language had with share-ability.

However, compare with Positive Emotion, the manifestation of their effect on share-ability seem to be more varied. With the exception of Disgust, of 2 out of 3 Activating Negative Emotions does not produce direct effect on popularity but rather contributed themselves to share-ability via bounce and from bounce to sustaining. This might suggest that activation was likely provoking more shares by inspiring debate and discussion rather than sheer attractiveness of the content. This was because debatable topic tend to be situational (thus, had up and down period) and receive more attention (hence, better persistency).

Deactivation, on the other hands, did not related to any variable, except sustaining in near significant level. This finding was different from the previous study (Berger and Milkman, 2012 see Chapter 5 for more detail), however since all of the contents employed in this study were taken from the very best perform content of the website, they might be less likely to be affected by any variable negatively. Since being on their position mean they must already defeated any potential negative effect.

Conclusion, activation was found to increase share-ability (albeit in a more diverse way than valence). The lack of activation also did confirm to rob this positive affect away, display in the effect of deactivation. The deactivation, however, never seem to produce negative effect as other study had suggested.

Figure 25 *Correlation Table*

Correlations										
		Positive	Anxiety	Anger	Sad	Disgust	Pop: 4 item, a = .89	Sust: 3 items, a = .80	Bounce Factor: 2 items, a = .81	Linear
Positive	Pearson Correlation	1	-.099	.088	-.013	.109	.244	.050	-.044	.207
	Sig. (2-tailed)		.409	.467	.914	.365	.040	.680	.715	.083
	N	71	71	71	71	71	71	71	71	71
Anxiety	Pearson Correlation	-.099	1	.202	.356	.252	-.082	.083	.128	-.032
	Sig. (2-tailed)	.409		.090	.002	.034	.496	.494	.288	.792
	N	71	71	71	71	71	71	71	71	71
Anger	Pearson Correlation	.088	.202	1	-.081	.334	.096	.066	.166	-.011
	Sig. (2-tailed)	.467	.090		.501	.004	.427	.582	.166	.927
	N	71	71	71	71	71	71	71	71	71
Sad	Pearson Correlation	-.013	.356	-.081	1	.153	.061	.086	.028	.115
	Sig. (2-tailed)	.914	.002	.501		.203	.613	.478	.815	.338
	N	71	71	71	71	71	71	71	71	71
Sisgust	Pearson Correlation	.109	.252	.334	.153	1	.129	.088	-.063	.115
	Sig. (2-tailed)	.365	.034	.004	.203		.282	.467	.603	.341
	N	71	71	71	71	71	71	71	71	71
Popularity Factor: 4 item, a = .89	Pearson Correlation	.244	-.082	.096	.061	.129	1	.526	.067	.041
	Sig. (2-tailed)	.040	.496	.427	.613	.282		.000	.577	.736
	N	71	71	71	71	71	71	71	71	71
Sustaining Factor: 3 items, a = .80	Pearson Correlation	.050	.083	.066	.086	.088	.526	1	.284	.011
	Sig. (2-tailed)	.680	.494	.582	.478	.467	.000		.017	.930
	N	71	71	71	71	71	71	71	71	71
Bounce Factor: 2 items, a = .81	Pearson Correlation	-.044	.128	.166	.028	-.063	.067	.284	1	-.228
	Sig. (2-tailed)	.715	.288	.166	.815	.603	.577	.017		.056
	N	71	71	71	71	71	71	71	71	71
Linear	Pearson Correlation	.207	-.032	-.011	.115	.115	.041	.011	-.228	1
	Sig. (2-tailed)	.083	.792	.927	.338	.341	.736	.930	.056	
	N	71	71	71	71	71	71	71	71	71

CHAPTER 5 - DISCUSSION

The goal of this study is to assess whether emotion, along the line of concept of core affect, would affect the popularity of the already viral content. To accomplish this, this paper came up with the 4 statistical measurements based on the observable rank of New York Times articles over the course of nearly two months which include popularity and its derivatives. The 3 out of 4 measurements were unexpectedly found to be highly correlated with popularity which allowed us to drawn conclusion on our research question, much more so than but what anticipated. In general, this study found that affect such as activation and valence

did correlate with social media share-ability. Although the result did not always manifested as popularity measure but these results can always be observed in other popularity-related measurements. As a result, this study successfully address the research question

5 – 1 Result Summary

This study divided the answer into two sections to address both aspect of core affect: valence, and activation. On valence (positive-negative) found that both positive and negative emotional languages were associated with increased in share-ability. However, positive valence was founded to produce stronger effect more consistent effect on raw amount of sharing. Negative valence correlated with less raw shares but was more likely to increase other desirable result such as sharing persistency and more swing result (which might suggest stronger attention). However, the negative valence result in general remained inconsistent across all variables.

Activation produced more contrast result. The presences of Negative Activating emotional languages were founded to be uniformly associated with increased in share-ability, albeit in more varied way similar to negative valence. Activation, however, were founded to be associated less directly with persistency and more with swing result. Deactivation on the other was founded to be not associated with any variables which confirmed the lack of activation effect when the said emotional languages were removed.

Because of various effect on near acceptable level, this paper founded that both ends of core effect on both dimensions to be equally useful. Depending on the intent of the narrators, these none-popularity (raw shares) effects of emotional languages might be more desirable in specific situations.

5 – 2 Theoretical Implication

This research connected psychological concept based on internal organic reaction to sociological phenomenon. While this concept has been exploited by

similar research in the past (Berger and Milkman, 2012), this study has reaffirmed the effectiveness of basic emotion as a reliable predicator of online human behavior.

Reaffirming Past Research

Psychological concept (especially in area such as emotion) in the past had maintained strong link to traditional human behavior (Morris, 2012; Peters, Vastfjall, Garling, & Slovic, 2006; Rime, Mesquita, Boca, & Philippot, 1991), some also devised that nature of sharing can be counted either as social phenomenon or emotion-related (Fehr, Kirchsteiger, & Riedl, 1998), however, many of these legacy studies were based on physical concept of sharing. One of the contribution that this study made to this discipline of research is to bring the concept of these traditional finding into the modern world of social media. We are able to confirmed that emotions (and their deriving theory) still rather effective drive behind human behavior.

This study also demonstrates the effectiveness of Russel's robust concept of core affect in predicting human behavior in social media with empirical and data-driven study. Many similar studies in the past that employed Russel's concept of core affect, did so in traditional fashion (i.e. interview) for generic purpose (Västfjäll et al., 2002; Västfjäll & Gärling, 2007), this study would also work and produced consistent result in online environment.

Aside from that, our result also reported some of the academically interesting phenomena in the form of near acceptable effect of emotional language, which reported some of the more drastic changes. While any of the effect derived from these near acceptable findings are purely speculative, the findings are nonetheless interesting and hold potential to be the subject which explore the other less prominent effect of emotion on human behavior.

New Research Technique: Extended Variables

Most of the other studies, using core affect (or perhaps any social studies in particular) often been conducted by single, direct variable, for instance, a direct input from a set of questionnaire and its most direct statistical value such as mean,

standard deviation, and medium (Västfjäll, Friman, Gärling, & Kleiner, 2002; Västfjäll & Gärling, 2007), this is of course, a standard practice that practiced by most quantitative study including this paper. However, what the unique discovery in this study is that, the many of these statistical value can be used to create a wilder "nets" of measurements. These "nets" could be used to capture the effect or identify the relationship (as in what was practiced in this study) of even the weaker social phenomena in a smaller samples, via the analysis of its side effect and related the finding back to the main effect that the main study wished to discovered. It remained unclear, however, if this technique would be effective in some other context. The measurements constructed for this study composed not only of standard statistical value but also several self-constructed and traditional variable based on shape of the function (midimin and midimax, positive skewness, kurtosis for instances). These several variables might be one of the reason why our measurements ultimately works the way they were, and omitting any of those might produce a different result. This knowledge could be useful in other study revolved around activated emotion and perhaps even other social studies. Many older studies could be recreated using this extended variables model and discover what would otherwise be a missing result. Smaller study could also potentially benefit from greater potential to observe the effect that otherwise require far greater sample size.

Comparing With Similar Study

Compare to previous study by Burger and Milkman (2012), the finding in this paper was a bit different. The previous result show a clear relationship between activating emotion and share-ability whiles the two variables that these two papers had in common (Anger and Anxiety), were only related to share-ability via proxy. This might due to the fact the two studies focused on different population. While the previous study performed analysis on all of the New York Times content and determine probability that the content would make it to 25 list of most emailed articles, this study focused on the top 5 out of top 25 list of most emailed articles. As a result, this study managed to identify some of the characteristics of activating emotion on share-ability at the top most end of the spectrum which were unique

from the generic content rising to become popular. One of such characteristic would be less sensitive nature of the emotion variables to popularity. This is could be an explanation to the variation of result found between these two studies. The top 5 articles would already have plenty of viewers share to reach this position, this would limit the potential viewer's share they could gain after they had reached this level. In comparison, articles raised from the base could have as many readerships as the platform could offer and so would have more chance to develop viewer's share overtime. The rest of the findings in this paper are largely similar in regard to activating emotion. Disgust which was made out of Negative Emotion also shared similar strong correlation to popularity as with Burger and Milkman (2012).

The major different, however, was founded on Deactivating Negative Emotion. Berger and Milkman (2012) result indicated negative correlation between Deactivation and virality (albeit, the concept was more similar to this study share-ability). This paper discovers no such effect on our own Deactivating Negative emotional variables. However as indicated previously, this might very well be the result of different in sample of population.

5 – 3 Practical Implication

One of the major challenges that every international organization has to face is to communicate effectively with their newly emerged market from across the traditional border – emotion language is likely one of the key that many of these organization could utilized to accomplish this mission. With the rise of internet and the decline of traditional media industry (BARTHEL, 2015), the need to master the art of online communication technique like virality creation become greater than ever. The finding in this study create more understanding as in how to make use of emotional language in promoting or sustaining share-ability of online content which is crucial element in the function of virality. Many of the findings of this study could contribute significantly to the art of social media communication.

Understanding the Effect of Emotional Language

This study demonstrates the strength and weakness of each of the emotional language categories as effective tool to influence viewer share in social media. We have confirmed and demonstrate that positive affect is likely to be more effective tool in driving shares of content, even in the top most categories where potential readership are limited. We also demonstrate that positive affect, despite being highly associated with share-ability, is exhibiting more of a "hype" or popular short term and flat surge of popularity, rather than thought-provoking and timelessness of some of the more serious matter. Some of the activating negative affect, on the other hands could also exhibit more pattern of a "mixed opinion" with complex sharing pattern overtime (Anger and Anxiety), while other can be similarly effective as positive affect while hold more potential to be more visible in the longer run (Disgust). Practitioner can make use of this knowledge to optimize the emotional language of their content toward their particular readership. Tabloid which target generic readership with goal of attracting as much view as possible, might employed more positive emotional word to optimize their shareable potential. More serious paper which target policy maker, public servant, or politician might be wiser to afford less positive tones with more emphasis on arousal to promote careful consideration of a particular agenda. Of course, in practice, content creator will also likely limited to the matter they have at hands (one can't simply make news of tragic accident in positive light). However, when the matter of content is well under control (i.e. when crafting PR massage or campaign planning), knowing what tone to use for which audiences and which purposes could increase chances of operational success and simplified the pilot research, potentially save overall cost of the campaign.

Characteristic of High Perform vs General Contents

This study also demonstrated the different in sharing behavior between higher end and standard content. Unlike typical content, highly shared articles have little room to growth and are more stable in some area. This would that the different treatment will be needed for articles from these two different natures to achieve the

communication goal. While this might sound insignificant on paper, the knowledge can be very useful to reporter on the field. For instance, some articles which are the update of existing prominent issue, will likely become popular the moment they made it to the front page. On the other hands articles contain fresh incident can be just as popular on the first day but will need both time and continue attention to build itself into one of the most shared. This is demonstrate in the result of the study with many of the most prominent content we've sampled are often consisted multiple content based on single issues (United States president election, Islamic State abuse etc.) These two different contents would require two different treatments to optimize. The result of this study introduced concept such as the resistance to deactivating negative emotion in higher end content, which identify the opportunity for campaigner to introduce more serious massage to right group of people to ensure the effectiveness of the campaign.

5 – 4 Suggestion and Conclusion

Emotional language relation to online sharing behavior is relatively a new field of study, as with many other studies focused on human behavior, the result tends to be difficult to accurately determine. This study provided a glimpse into the extent of how people react to emotional languages and demonstrated various other interpretations that could become the basis of future study. In particular, this study had determined the nature of basic emotion, divided upon the axis of pleasure/displeasure, and activate/deactivate and had expanded the conclusion made by previous study in this field. With some of the phenomena such as Positive Emotion being correlated with popularity being confirmed, the logical step for the future research is to focus on the areas where correlation is still weak due to the relatively small size of this paper. Expanding it further with a more comprehensive research would sure to bring a better understanding of these results.

This study has confirmed one thing, that is; emotion variable of various types tend to act separately from each other. Therefore, rather than lumping all together, a future research that isolate each of the emotion from one another might have

produced a different result. This paper also found that a lot of the emotions which existed in each of the articles tend to be unclear with several emotions gaining prominent within a single article. This is also an area where more research can be applied to isolate these articles with mixed emotion and focus more on the effect of extreme emotion on online behavior which could compliment the result found in this paper.

In conclusion, this paper had added one more steps toward the understanding of emotional languages influence on online sharing behavior. The result had not been clear cut, as with other social and media study. Yet it paved way, and created direction for future researchers who are interested in this field to take advantage of and bring us even closer toward understanding human behavior.

5 – 5 Limitation

There are four principal limitations of this study, the relatively small sample size, the limited availability of variable necessary to capture full spectrum of Core Affect, and the validity and the inability to perceive the effect of emotion beyond the top 5 most emailed articles.

The first limitation is obvious, with only total of 71 articles, the sample size in this study is relatively smaller in comparison with other similar framework (Berger and Milkman, 2012, for instances employed over two thousands in their study). The reason for this relatively smaller number is that, articles that make it to the level we considered highly share-able are much more limited (top 5, while in comparison the previous 2012 study employed the to 25 which allow for more data fluctuation). Still despite the obvious limitation, this study was able to conclude a significant correlation between the employed variables. For the very least, this should be enough to explain that sample size was big enough for the purpose. Furthermore, employing only the very top most emailed articles also eliminate any ambiguity of whether the articles were sharable enough. Of course, the result could have been better with more availability of data.

The second limitation is the limited capability of LIWC emotion variables to capture the effect of Russel's core affect in full blow spectrum. Core affect was mentioned as composed of 2 dimensions of psychological affect – pleasant/unpleasant, and activation/deactivation. While the several variables offered by LIWC could be identified with some of the affective dimensions (Anger, Sadness, and Anxiety), other was too vague to be identified with some of the specific displayed emotions (Positive Emotion). Other was the fruit of this study unique reduction method (Disgust) which based on the assumption that Ekman's basic emotion is true. Still this study believed that the employed concept would be able to accommodate our operation both in core affect and LIWC context. First, one of the principal concepts of this study was to identify certain emotional languages which related to the concept of basic emotion. The purpose of this action was so that the study could be generalized in larger cultural context. Positive Emotion, although could not be identified with any of the mixed in activate/deactivate dimension, would still be belong to one of core dimension of core affect. And thus, would retain the advantage of culturally universality of basic emotion.

As for LIWC requirement, while Disgust itself was not a variable presented in LIWC, it was inevitably based on LIWC organic output; Negative Emotion. The Negative Emotion was made into Disgust by minus the effect of Anger, Anxiety, and Sadness, all of which were part of Ekman's basic emotion (Anger, Disgust, Fear, Sadness). All of which were also LIWC generated variables and so even if the state of Disgust cannot be confirmed, the variable would still be comparable to other variables (all of which generated by LIWC).

The final limitation is the inability of to perceive any effect of emotion on share-ability below the top 5 most shared articles. The effect of emotion on share-ability would likely be felt on other less prominent articles as well. Likewise, having been removed from the top 5 most emailed list hardly mean the losses of prominent. The New York Times list of most emailed articles were in fact, extend to include top 25 most emailed articles, fallen from top 5 might simply mean the articles still existed somewhere in other position of the top 25. The reason why this paper decided to go with the top 5 instead of top 25 was admittedly the lack of

resources available (the server we employed simply couldn't accommodate as much as top 25 most shared articles). However, using top 5 instead of top 25 also had its own advantage, this methodology was much easier to be recreated to other sources of content which might not have as long list of prominent sharable content as the New York Times (for instance, the BBC which contained much less in their system). For the moment however, there were nothing to offset this limitation. This study was limited in scale and so our outcome would only be able to accommodate the limited conclusion of emotion language on only the most prominent sharable content available.

In conclusion, this study was small and relied on simple technology to make up for the lack of resources. As such the scale of data and the nature of the program that accommodate such data was our greatest limitation. However, despite the shortcoming, the study was still proven significant enough for its scale and so the outcome should remain significant and useful for any future projects to springboard their research.

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ภาคผนวก

APPENDICES

Appendix A: LIWC Result

Title	Positive	Negative	Anxiety	Anger	Sadness	Disgust
100 Notable Books of 2015	2.21	2.43	0.44	0.95	0.54	0.5
12 Minutes of Yoga for Bone Health	3.39	2.40	0.80	0.20	0.60	0.8
12 Travel Apps Worth Keeping in 2016	3.26	0.33	0.08	0.08	0.00	0.17
52 Places to Go in 2016	2.48	0.36	0.06	0.12	0.17	0.01
8 Things You Can Do Now to Save Money on Travel	3.42	0.75	0.08	0.00	0.50	0.17
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	2.72	4.24	0.89	1.88	0.42	1.05
A Carved Stone Block Upends Assumptions About Ancient Judaism	1.02	0.60	0.17	0.26	0.17	0
A Century Ago, Einstein's Theory of Relativity Changed Everything	1.72	1.50	0.05	0.27	0.59	0.59
A Mansion, a Shell Company and Resentment in Bel Air	1.14	1.18	0.17	0.41	0.09	0.51
A Medieval Antidote to ISIS	1.75	2.80	0.23	0.93	0.23	1.41
A Wealthy Governor and His Friends Are Remaking Illinois	2.91	0.91	0.18	0.40	0.18	0.15
Addicted to Distraction	2.39	1.17	0.23	0.18	0.41	0.35
Agriculture Linked to DNA Changes in Ancient Europe	1.04	0.66	0.38	0.00	0.19	0.09
Anyone but Ted Cruz	2.01	1.76	0.25	0.75	0.13	0.63
Are Good Doctors Bad for Your Health?	2.97	3.31	0.91	0.34	0.23	1.83
At Thomas Keller's Per Se, Slips and Stumbles	2.28	1.86	0.21	0.28	0.76	0.61
Brawn and Brains	2.41	0.92	0.23	0.00	0.11	0.58
Choose to Be Grateful. It Will Make You Happier.	7.55	2.23	0.29	0.50	0.58	0.86
Class Differences in Child-	2.51	2.27	0.63	0.08	0.63	0.93

Rearing Are on the Rise						
Coffee Tied to Lower Risk of Dying Prematurely	2.18	3.93	3.49	0.00	0.87	-0.43
Contaminating Our Bodies With Everyday Products	1.85	3.05	0.79	0.79	0.13	1.34
Dear Powerball Winner: Take Our Advice and Take the Annuity	3.94	0.77	0.10	0.19	0.29	0.19
Doctors Unionize to Resist the Medical Machine	2.85	1.33	0.37	0.31	0.25	0.4
Don’t Let Kids Play Football	2.55	2.96	0.94	0.13	0.54	1.35
Doubling Down on W	3.00	2.12	0.37	0.75	0.25	0.75
Drink to Your Health (in Moderation), the Science Says	2.69	2.17	1.13	0.26	0.26	0.52
Elections Have Consequences	2.87	1.68	0.00	0.72	0.24	0.72
End the Gun Epidemic in America	3.50	6.56	0.88	4.38	0.44	0.86
Fear, Loathing and Republican Debaters	2.20	4.02	1.83	1.46	0.37	0.36
Fearing Fear Itself	2.64	7.41	3.64	1.76	0.50	1.51
Finding Alice’s ‘Wonderland’ in Oxford	2.53	0.65	0.15	0.31	0.15	0.04
Finding Peace Within the Holy Texts	3.32	3.44	0.49	1.47	0.00	1.48
For the Wealthiest, a Private Tax System That Saves Them Billions	3.52	0.77	0.14	0.26	0.09	0.28
Goose-Steppers in the G.O.P.	3.75	2.58	0.47	1.17	0.23	0.71
How Do Sunni and Shia Islam Differ?	1.68	1.92	0.12	1.32	0.24	0.24
How Should You Manage Your Money? And Keep It Short	2.04	1.05	0.20	0.00	0.39	0.46
How to Cultivate the Art of Serendipity	2.74	0.83	0.06	0.18	0.24	0.35
How Well Do You Know Religion?	2.47	3.25	1.08	1.55	0.00	0.62
Is the Drive for Success Making Our Children Sick?	1.90	5.28	2.08	0.17	1.39	1.64
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	1.42	2.70	0.41	1.22	0.63	0.44
New Jersey School	1.44	1.44	0.94	0.14	0.14	0.22

District Eases Pressure on Students, Baring an Ethnic Divide						
Our (Bare) Shelves, Our Selves	2.08	0.52	0.00	0.00	0.22	0.3
Posture Affects Standing, and Not Just the Physical Kind	2.26	2.90	1.00	0.00	0.72	1.18
Privilege, Pathology and Power	2.53	2.02	0.13	0.76	0.25	0.88
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	2.71	1.27	0.23	0.36	0.23	0.45
Saudi Arabia, an ISIS That Has Made It	1.77	4.55	1.01	2.40	0.13	1.01
Short Answers to Hard Questions About Climate Change	2.60	2.40	0.58	0.35	0.35	1.12
Simple Rules for Healthy Eating	3.31	1.33	0.58	0.17	0.00	0.58
The 10 Best Books of 2015	2.39	2.58	0.83	0.64	0.83	0.28
The Best Movies of 2015	3.45	2.22	0.38	0.91	0.35	0.58
The Best TV Shows of 2015	3.55	1.88	0.33	0.80	0.25	0.5
The Big Short,' Housing Bubbles and Retold Lies	3.94	2.34	0.25	1.11	0.25	0.73
The Brutalism of Ted Cruz	4.15	3.54	0.73	1.95	0.24	0.62
The Case Against Woodrow Wilson at Princeton	2.34	1.00	0.33	0.33	0.33	0.01
The Christmas Revolution	4.69	2.56	0.43	0.43	0.75	0.95
The Donald and the Decider	3.02	1.76	0.00	0.75	0.25	0.76
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	4.00	0.91	0.16	0.11	0.43	0.21
The House That Julia Built	1.84	0.40	0.06	0.12	0.17	0.05
The Lawyer Who Became DuPont's Worst Nightmare	1.43	1.78	0.35	0.49	0.20	0.74
The Marshall Islands Are Disappearing	0.99	1.87	0.20	0.59	0.49	0.59
The One Question You Should Ask About Every New Job	3.96	1.66	0.24	0.00	0.32	1.1
The Terrible Beauty of Brain Surgery	1.45	1.63	0.42	0.31	0.34	0.56
The Typical American Lives Only 18 Miles From Mom	2.71	0.52	0.13	0.06	0.13	0.2

The Wisdom of the Aged	3.01	1.68	0.41	0.33	0.46	0.48
The Words That Killed Medieval Jews	2.12	5.10	0.67	2.50	0.38	1.55
Twitter Cats to the Rescue in Brussels Lockdown	2.14	2.14	1.42	0.00	0.00	0.72
When Philosophy Lost Its Way	2.42	1.37	0.07	0.39	0.52	0.39
Who Turned My Blue State Red?	2.91	1.56	0.22	0.39	0.48	0.47
Why I Will Never Vote for Donald Trump	3.90	1.78	0.25	0.85	0.17	0.51
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	2.86	2.42	0.25	1.40	0.32	0.45
Your iPhone Is Ruining Your Posture — and Your Mood	1.28	2.33	0.58	0.23	1.05	0.47

Appendix B: Popularity Measure Data

Title	Popularity	Mean	Skewness	rskew	Kurtosis	Median
100 Notable Books of 2015	0.80238	3.43	-1.43	1.43	0.54	4
12 Minutes of Yoga for Bone Health	0.63528	3.2	-1.17	1.17	-0.3	4
12 Travel Apps Worth Keeping in 2016	-0.80867	1	0	0	0	1
52 Places to Go in 2016	1.33971	4.41	-1.61	1.61	1.22	5
8 Things You Can Do Now to Save Money on Travel	-1.11943	1.14	2.11	-2.11	2.51	1
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	0.02061	3.01	-0.03	0.03	-1.78	3
A Carved Stone Block Upends Assumptions About Ancient Judaism	-0.0211	3.06	0.44	-0.44	-0.83	3
A Century Ago, Einstein's Theory of Relativity Changed Everything	-0.43013	1.62	-0.5	0.5	-1.83	2
A Mansion, a Shell Company	0.73046	3.31	-1.27	1.27	0.46	4

and Resentment in Bel Air						
A Medieval Antidote to ISIS	-0.80867	1	0	0	0	1
A Wealthy Governor and His Friends Are Remaking Illinois	0.59471	2.84	-1.86	1.86	1.49	3
Addicted to Distraction	1.44266	4.4	-1.89	1.89	1.93	5
Agriculture Linked to DNA Changes in Ancient Europe	-0.80867	1	0	0	0	1
Anyone but Ted Cruz	0.09575	3.09	-0.15	0.15	-1.33	3
Are Good Doctors Bad for Your Health?	1.32915	3.64	-2.45	2.45	4.67	4
At Thomas Keller's Per Se, Slips and Stumbles	0.11519	3	0	0	0	3
Brawn and Brains	-0.80867	1	0	0	0	1
Choose to Be Grateful. It Will Make You Happier.	2.39954	4.73	-3.47	3.47	10.74	5
Class Differences in Child-Rearing Are on the Rise	0.26245	3.29	-0.12	0.12	0.83	3
Coffee Tied to Lower Risk of Dying Prematurely	-1.0984	1.11	2.61	-2.61	4.99	1
Contaminating Our Bodies With Everyday Products	-0.80867	1	0	0	0	1
Dear Powerball Winner: Take Our Advice and Take the Annuity	-0.89799	1.42	0.32	-0.32	-2.02	1
Doctors Unionize to Resist the Medical Machine	-1.03611	1.27	1.02	-1.02	-0.97	1
Don't Let Kids Play Football	-1.11057	1.17	1.75	-1.75	1.09	1
Doubling Down on W	-0.80867	1	0	0	0	1
Drink to Your Health (in Moderation), the Science Says	-0.41494	1.63	-0.53	0.53	-1.74	2
Elections Have Consequences	-0.80867	1	0	0	0	1
End the Gun Epidemic in America	1.80788	4.78	-2.49	2.49	4.24	5
Fear, Loathing and Republican Debaters	-0.80867	1	0	0	0	1
Fearing Fear Itself	0.51566	4	0	0	-1.06	4
Finding Alice's 'Wonderland' in Oxford	-0.54942	1.53	-0.14	0.14	-2.08	2
Finding Peace Within the Holy Texts	0.9115	4.14	-1.19	1.19	0.44	4
For the Wealthiest, a Private Tax System That Saves Them	2.74529	4.79	-4.01	4.01	14.26	5

Billions						
Goose-Steppers in the G.O.P.	-0.80867	1	0	0	0	1
How Do Sunni and Shia Islam Differ?	0.23778	3.5	-0.1	0.1	-0.38	3
How Should You Manage Your Money? And Keep It Short	0.15129	3.22	0.01	-0.01	-0.25	3
How to Cultivate the Art of Serendipity	-0.82728	1.48	0.07	-0.07	-2.04	1
How Well Do You Know Religion?	-0.80867	1	0	0	0	1
Is the Drive for Success Making Our Children Sick?	-0.36802	2.05	-0.06	0.06	-0.8	2
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	-0.80867	1	0	0	0	1
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	1.03283	3.9	-1.58	1.58	1.96	4
Our (Bare) Shelves, Our Selves	-0.80867	1	0	0	0	1
Posture Affects Standing, and Not Just the Physical Kind	-0.49056	1.94	0.13	-0.13	-1.73	2
Privilege, Pathology and Power	0.58776	3.41	-0.85	0.85	-0.73	4
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	0.49762	2.65	-1.64	1.64	1.49	3
Saudi Arabia, an ISIS That Has Made It	-0.57822	2.18	1.06	-1.06	-0.51	2
Short Answers to Hard Questions About Climate Change	-0.99739	1.32	0.81	-0.81	-1.38	1
Simple Rules for Healthy Eating	-0.325	2.83	0.35	-0.35	-1.72	2
The 10 Best Books of 2015	0.51028	3.15	-0.83	0.83	-0.89	4
The Best Movies of 2015	0.65991	3.32	-1.07	1.07	0	4
The Best TV Shows of 2015	-0.80867	1	0	0	0	1
The Big Short,' Housing Bubbles and Retold Lies	-0.5387	1.78	0.35	-0.35	-0.99	2
The Brutalism of Ted Cruz	0.15989	3.59	-0.04	0.04	-1.85	3
The Case Against Woodrow	-0.80867	1	0	0	0	1

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Wilson at Princeton						
The Christmas Revolution	-0.80867	1	0	0	0	1
The Donald and the Decider	0.40701	3.79	0.3	-0.3	-0.87	4
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	-0.34263	1.99	0	0	0.11	2
The House That Julia Built	-0.34674	2	0	0	0	2
The Lawyer Who Became DuPont's Worst Nightmare	1.14385	3.75	-1.91	1.91	3.19	4
The Marshall Islands Are Disappearing	-0.80867	1	0	0	0	1
The One Question You Should Ask About Every New Job	3.6748	4.94	-4.91	4.91	26.1	5
The Terrible Beauty of Brain Surgery	-0.23264	2.27	-0.42	0.42	-0.84	2
The Typical American Lives Only 18 Miles From Mom	-1.08962	1.21	1.48	-1.48	0.21	1
The Wisdom of the Aged	0.15819	2.59	-0.75	0.75	-0.52	3
The Words That Killed Medieval Jews	-0.20666	2.31	-0.47	0.47	-0.77	2
Twitter Cats to the Rescue in Brussels Lockdown	-0.94141	1.48	1.07	-1.07	-0.03	1
When Philosophy Lost Its Way	-0.80867	1	0	0	0	1
Who Turned My Blue State Red?	0.70664	2.86	-2.09	2.09	2.41	3
Why I Will Never Vote for Donald Trump	0.23627	3.03	-0.06	0.06	-2.06	4
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	-0.21752	1.73	-1.06	1.06	-0.89	2
Your iPhone Is Ruining Your Posture — and Your Mood	2.01548	4.65	-2.86	2.86	6.88	5

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Appendix C: Sustaining Measure Data

Title	Sustaining	N	SD	midimax
100 Notable Books of 2015	1.20306	156	0.99	1
12 Minutes of Yoga for Bone Health	0.45985	120	1.17	0
12 Travel Apps Worth Keeping in 2016	-1.396	17	0	0
52 Places to Go in 2016	1.76193	224	1.09	1
8 Things You Can Do Now to Save Money on Travel	0.29	115	0.35	1
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	1.13381	159	0.9	1
A Carved Stone Block Upends Assumptions About Ancient Judaism	1.57012	174	1.24	1
A Century Ago, Einstein's Theory of Relativity Changed Everything	-0.70769	47	0.49	0
A Mansion, a Shell Company and Resentment in Bel Air	1.07345	139	0.98	1
A Medieval Antidote to ISIS	-1.25975	37	0	0
A Wealthy Governor and His Friends Are Remaking Illinois	0.54233	149	0.37	1
Addicted to Distraction	1.69246	184	1.29	1
Agriculture Linked to DNA Changes in Ancient Europe	-1.47094	6	0	0
Anyone but Ted Cruz	1.02719	161	0.78	1
Are Good Doctors Bad for Your Health?	0.51843	172	0.87	0
At Thomas Keller's Per Se, Slips and Stumbles	-1.287	33	0	0
Brawn and Brains	-1.47094	6	0	0
Choose to Be Grateful. It Will Make You Happier.	1.22354	170	0.92	1
Class Differences in Child-Rearing Are on the Rise	1.08728	150	0.92	1
Coffee Tied to Lower Risk of Dying Prematurely	-0.14743	56	0.31	1
Contaminating Our Bodies With Everyday Products	-1.25294	38	0	0

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Dear Powerball Winner: Take Our Advice and Take the Annuity	-0.79223	33	0.5	0
Doctors Unionize to Resist the Medical Machine	0.49756	131	0.45	1
Don’t Let Kids Play Football	0.20671	98	0.38	1
Doubling Down on W	-1.31425	29	0	0
Drink to Your Health (in Moderation), the Science Says	-0.0664	142	0.49	0
Elections Have Consequences	-1.47776	5	0	0
End the Gun Epidemic in America	0.20793	161	0.63	0
Fear, Loathing and Republican Debaters	-1.396	17	0	0
Fearing Fear Itself	-0.00994	116	0.72	0
Finding Alice’s ‘Wonderland’ in Oxford	-0.70752	45	0.51	0
Finding Peace Within the Holy Texts	1.09603	140	0.99	1
For the Wealthiest, a Private Tax System That Saves Them Billions	0.65601	188	0.9	0
Goose-Steppers in the G.O.P.	-1.287	33	0	0
How Do Sunni and Shia Islam Differ?	1.08267	135	1.01	1
How Should You Manage Your Money? And Keep It Short	0.173	166	0.56	0
How to Cultivate the Art of Serendipity	-0.45061	83	0.5	0
How Well Do You Know Religion?	-1.26656	36	0	0
Is the Drive for Success Making Our Children Sick?	0.58898	111	0.68	1
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	-1.47094	6	0	0
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	1.15667	134	1.1	1
Our (Bare) Shelves, Our Selves	-1.49138	3	0	0
Posture Affects Standing, and	0.79399	111	0.89	1

Not Just the Physical Kind				
Privilege, Pathology and Power	0.04105	119	0.75	0
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	-0.31862	84	0.63	0
Saudi Arabia, an ISIS That Has Made It	1.67038	143	1.56	1
Short Answers to Hard Questions About Climate Change	0.38004	111	0.47	1
Simple Rules for Healthy Eating	0.34182	140	0.91	0
The 10 Best Books of 2015	1.28342	150	1.11	1
The Best Movies of 2015	1.08522	151	0.91	1
The Best TV Shows of 2015	-1.40282	16	0	0
The Big Short,' Housing Bubbles and Retold Lies	0.16128	142	0.72	0
The Brutalism of Ted Cruz	0.67346	123	1.37	0
The Case Against Woodrow Wilson at Princeton	-1.46413	7	0	0
The Christmas Revolution	-1.47776	5	0	0
The Donald and the Decider	0.2417	158	0.69	0
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	0.70933	144	0.57	1
The House That Julia Built	-1.36875	21	0	0
The Lawyer Who Became DuPont's Worst Nightmare	0.5446	177	0.86	0
The Marshall Islands Are Disappearing	-1.30744	30	0	0
The One Question You Should Ask About Every New Job	-0.18695	157	0.26	0
The Terrible Beauty of Brain Surgery	0.44313	88	0.69	1
The Typical American Lives Only 18 Miles From Mom	-0.10534	48	0.41	1
The Wisdom of the Aged	0.85467	116	0.91	1
The Words That Killed Medieval Jews	0.13351	144	0.67	0
Twitter Cats to the Rescue in Brussels Lockdown	0.24728	62	0.67	1
When Philosophy Lost Its Way	-1.44369	10	0	0
Who Turned My Blue State	0.57613	157	0.35	1

Red?				
Why I Will Never Vote for Donald Trump	-0.0833	64	1.01	0
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	-0.20801	127	0.45	0
Your iPhone Is Ruining Your Posture — and Your Mood	0.66009	175	0.99	0

Appendix D: Linear Measure Data

Title	Linearity	First	Last	Min	Max	rise	run
100 Notable Books of 2015	-3	2	1	1	4	3	-1
12 Minutes of Yoga for Bone Health	1	1	4	1	4	3	3
12 Travel Apps Worth Keeping in 2016	0	1	1	1	1	0	0
52 Places to Go in 2016	-2	4	2	1	5	4	-2
8 Things You Can Do Now to Save Money on Travel	0	1	1	1	2	1	0
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	2	2	3	2	4	2	1
A Carved Stone Block Upends Assumptions About Ancient Judaism	0	1	1	1	5	4	0
A Century Ago, Einstein's Theory of Relativity Changed Everything	1	1	2	1	2	1	1
A Mansion, a Shell Company and Resentment in Bel Air	1.5	1	3	1	4	3	2
A Medieval Antidote to ISIS	0	1	1	1	1	0	0
A Wealthy Governor and His Friends Are Remaking Illinois	0	2	2	2	3	1	0
Addicted to Distraction	-2	3	1	1	5	4	-2
Agriculture Linked to DNA Changes in Ancient Europe	0	1	1	1	1	0	0
Anyone but Ted Cruz	2	2	3	2	4	2	1
Are Good Doctors Bad for Your Health?	1	1	4	1	4	3	3
At Thomas Keller's Per Se, Slips	0	3	3	3	3	0	0

and Stumbles							
Brawn and Brains	0	1	1	1	1	0	0
Choose to Be Grateful. It Will Make You Happier.	1.33	1	4	1	5	4	3
Class Differences in Child-Rearing Are on the Rise	2	1	3	1	5	4	2
Coffee Tied to Lower Risk of Dying Prematurely	0	1	1	1	2	1	0
Contaminating Our Bodies With Everyday Products	0	1	1	1	1	0	0
Dear Powerball Winner: Take Our Advice and Take the Annuity	0	2	2	1	2	1	0
Doctors Unionize to Resist the Medical Machine	0	1	1	1	2	1	0
Don’t Let Kids Play Football	0	1	1	1	2	1	0
Doubling Down on W	0	1	1	1	1	0	0
Drink to Your Health (in Moderation), the Science Says	1	1	2	1	2	1	1
Elections Have Consequences	0	1	1	1	1	0	0
End the Gun Epidemic in America	1	3	5	3	5	2	2
Fear, Loathing and Republican Debaters	0	1	1	1	1	0	0
Fearing Fear Itself	-2	5	4	3	5	2	-1
Finding Alice’s ‘Wonderland’ in Oxford	1	1	2	1	2	1	1
Finding Peace Within the Holy Texts	-1.5	4	2	2	5	3	-2
For the Wealthiest, a Private Tax System That Saves Them Billions	1	1	5	1	5	4	4
Goose-Steppers in the G.O.P.	0	1	1	1	1	0	0
How Do Sunni and Shia Islam Differ?	-2	3	1	1	5	4	-2
How Should You Manage Your Money? And Keep It Short	1	2	4	2	4	2	2
How to Cultivate the Art of Serendipity	1	1	2	1	2	1	1
How Well Do You Know Religion?	0	1	1	1	1	0	0
Is the Drive for Success Making	2	1	2	1	3	2	1

Our Children Sick?							
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	0	1	1	1	1	0	0
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	1.33	1	4	1	5	4	3
Our (Bare) Shelves, Our Selves	0	1	1	1	1	0	0
Posture Affects Standing, and Not Just the Physical Kind	0	1	1	1	3	2	0
Privilege, Pathology and Power	-1	4	2	2	4	2	-2
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	-1	3	1	1	3	2	-2
Saudi Arabia, an ISIS That Has Made It	0	2	2	1	5	4	0
Short Answers to Hard Questions About Climate Change	0	1	1	1	2	1	0
Simple Rules for Healthy Eating	1	2	4	2	4	2	2
The 10 Best Books of 2015	0	2	2	1	4	3	0
The Best Movies of 2015	1.5	1	3	1	4	3	2
The Best TV Shows of 2015	0	1	1	1	1	0	0
The Big Short,' Housing Bubbles and Retold Lies	1	1	3	1	3	2	2
The Brutalism of Ted Cruz	1	2	5	2	5	3	3
The Case Against Woodrow Wilson at Princeton	0	1	1	1	1	0	0
The Christmas Revolution	0	1	1	1	1	0	0
The Donald and the Decider	1	3	5	3	5	2	2
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	2	1	2	1	3	2	1
The House That Julia Built	0	2	2	2	2	0	0
The Lawyer Who Became DuPont's Worst Nightmare	-1	5	1	1	5	4	-4
The Marshall Islands Are Disappearing	0	1	1	1	1	0	0
The One Question You Should Ask About Every New Job	1	3	5	3	5	2	2
The Terrible Beauty of Brain	-2	2	1	1	3	2	-1

Surgery							
The Typical American Lives Only 18 Miles From Mom	0	1	1	1	2	1	0
The Wisdom of the Aged	-1.5	3	1	1	4	3	-2
The Words That Killed Medieval Jews	1	1	3	1	3	2	2
Twitter Cats to the Rescue in Brussels Lockdown	0	1	1	1	3	2	0
When Philosophy Lost Its Way	0	1	1	1	1	0	0
Who Turned My Blue State Red?	0	2	2	2	3	1	0
Why I Will Never Vote for Donald Trump	1	2	4	2	4	2	2
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	0	2	2	1	2	1	0
Your iPhone Is Ruining Your Posture — and Your Mood	1	1	5	1	5	4	4

Appendix E: Bouncing Measure Data

Title	**Bouncing**	**midimax**	**midimin**	**cubic**
100 Notable Books of 2015	0.52565	2	0	0
12 Minutes of Yoga for Bone Health	-0.44956	0	0	0
12 Travel Apps Worth Keeping in 2016	-0.20576	0	0	0
52 Places to Go in 2016	4.47484	1	-1	1
8 Things You Can Do Now to Save Money on Travel	-0.20576	1	0	0
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	-0.69336	1	0	0
A Carved Stone Block Upends Assumptions About Ancient Judaism	-0.20576	4	0	0
A Century Ago, Einstein's Theory of Relativity Changed Everything	-0.44956	0	0	0
A Mansion, a Shell Company	-0.57146	1	0	0

and Resentment in Bel Air				
A Medieval Antidote to ISIS	-0.20576	0	0	0
A Wealthy Governor and His Friends Are Remaking Illinois	-0.20576	1	0	0
Addicted to Distraction	0.28185	2	0	0
Agriculture Linked to DNA Changes in Ancient Europe	-0.20576	0	0	0
Anyone but Ted Cruz	-0.69336	1	0	0
Are Good Doctors Bad for Your Health?	-0.44956	0	0	0
At Thomas Keller's Per Se, Slips and Stumbles	-0.20576	0	0	0
Brawn and Brains	-0.20576	0	0	0
Choose to Be Grateful. It Will Make You Happier.	-0.53083	1	0	0
Class Differences in Child-Rearing Are on the Rise	-0.69336	2	0	0
Coffee Tied to Lower Risk of Dying Prematurely	-0.20576	1	0	0
Contaminating Our Bodies With Everyday Products	-0.20576	0	0	0
Dear Powerball Winner: Take Our Advice and Take the Annuity	1.58149	0	-1	0
Doctors Unionize to Resist the Medical Machine	-0.20576	1	0	0
Don't Let Kids Play Football	-0.20576	1	0	0
Doubling Down on W	-0.20576	0	0	0
Drink to Your Health (in Moderation), the Science Says	-0.44956	0	0	0
Elections Have Consequences	-0.20576	0	0	0
End the Gun Epidemic in America	-0.44956	0	0	0
Fear, Loathing and Republican Debaters	-0.20576	0	0	0
Fearing Fear Itself	2.0691	0	-1	0
Finding Alice's 'Wonderland' in Oxford	-0.44956	0	0	0
Finding Peace Within the Holy Texts	0.15995	1	0	0
For the Wealthiest, a Private Tax System That Saves Them	-0.44956	0	0	0

Billions				
Goose-Steppers in the G.O.P.	-0.20576	0	0	0
How Do Sunni and Shia Islam Differ?	0.28185	2	0	0
How Should You Manage Your Money? And Keep It Short	-0.44956	0	0	0
How to Cultivate the Art of Serendipity	-0.44956	0	0	0
How Well Do You Know Religion?	-0.20576	0	0	0
Is the Drive for Success Making Our Children Sick?	-0.69336	1	0	0
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	-0.20576	0	0	0
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	-0.53083	1	0	0
Our (Bare) Shelves, Our Selves	-0.20576	0	0	0
Posture Affects Standing, and Not Just the Physical Kind	-0.20576	2	0	0
Privilege, Pathology and Power	0.03805	0	0	0
Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	0.03805	0	0	0
Saudi Arabia, an ISIS That Has Made It	3.98723	3	-1	1
Short Answers to Hard Questions About Climate Change	-0.20576	1	0	0
Simple Rules for Healthy Eating	-0.44956	0	0	0
The 10 Best Books of 2015	3.98723	2	-1	1
The Best Movies of 2015	-0.57146	1	0	0
The Best TV Shows of 2015	-0.20576	0	0	0
The Big Short,' Housing Bubbles and Retold Lies	-0.44956	0	0	0
The Brutalism of Ted Cruz	-0.44956	0	0	0
The Case Against Woodrow Wilson at Princeton	-0.20576	0	0	0
The Christmas Revolution	-0.20576	0	0	0
The Donald and the Decider	-0.44956	0	0	0

The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	-0.69336	1	0	0
The House That Julia Built	-0.20576	0	0	0
The Lawyer Who Became DuPont's Worst Nightmare	0.03805	0	0	0
The Marshall Islands Are Disappearing	-0.20576	0	0	0
The One Question You Should Ask About Every New Job	-0.44956	0	0	0
The Terrible Beauty of Brain Surgery	0.28185	1	0	0
The Typical American Lives Only 18 Miles From Mom	-0.20576	1	0	0
The Wisdom of the Aged	0.15995	1	0	0
The Words That Killed Medieval Jews	-0.44956	0	0	0
Twitter Cats to the Rescue in Brussels Lockdown	-0.20576	2	0	0
When Philosophy Lost Its Way	-0.20576	0	0	0
Who Turned My Blue State Red?	-0.20576	1	0	0
Why I Will Never Vote for Donald Trump	-0.44956	0	0	0
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	1.58149	0	-1	0
Your iPhone Is Ruining Your Posture — and Your Mood	-0.44956	0	0	0

Appendix F: LIWC Result Arraged from Highest Positive to Lowest

Story	**Positive**	**Negative**	**Anxiety**	**Anger**	**Sad**	**Disgust**
Choose to Be Grateful. It Will Make You Happier.	7.55	2.23	0.29	0.5	1.39	1.64
Doctors Unionize to Resist the Medical Machine	2.85	1.33	0.37	0.31	1.05	0.47
A Century Ago, Einstein's Theory of Relativity Changed Everything	1.72	1.5	0.05	0.27	0.87	-0.43

Ruth Bader Ginsburg and Gloria Steinem on the Unending Fight for Women's Rights	2.71	1.27	0.23	0.36	0.83	0.28
End the Gun Epidemic in America	3.5	6.56	0.88	4.38	0.76	0.61
New Jersey School District Eases Pressure on Students, Baring an Ethnic Divide	1.44	1.44	0.94	0.14	0.75	0.95
95,000 Words, Many of Them Ominous, From Donald Trump's Tongue	2.72	4.24	0.89	1.88	0.72	1.18
A Wealthy Governor and His Friends Are Remaking Illinois	2.91	0.91	0.18	0.4	0.63	0.93
The Lawyer Who Became DuPont's Worst Nightmare	1.43	1.78	0.35	0.49	0.63	0.44
Dear Powerball Winner: Take Our Advice and Take the Annuity	3.94	0.77	0.1	0.19	0.6	0.8
Elections Have Consequences	2.87	1.68	0	0.72	0.59	0.59
Posture Affects Standing, and Not Just the Physical Kind	2.26	2.9	1	0	0.58	0.86
Are Good Doctors Bad for Your Health?	2.97	3.31	0.91	0.34	0.54	1.35
The Donald and the Decider	3.02	1.76	0	0.75	0.54	0.5
How to Cultivate the Art of Serendipity	2.74	0.83	0.06	0.18	0.52	0.39
The Words That Killed Medieval Jews	2.12	5.1	0.67	2.5	0.5	1.51
100 Notable Books of 2015	2.21	2.43	0.44	0.95	0.5	0.17
Privilege, Pathology and Power	2.53	2.02	0.13	0.76	0.49	0.59
How Well Do You Know Religion?	2.47	3.25	1.08	1.55	0.48	0.47
For the Wealthiest, a Private Tax System That Saves Them Billions	3.52	0.77	0.14	0.26	0.46	0.48
Your iPhone Is Ruining Your Posture — and Your Mood	1.28	2.33	0.58	0.23	0.44	0.86
Addicted to Distraction	2.39	1.17	0.23	0.18	0.43	0.21
Twitter Cats to the Rescue in Brussels Lockdown	2.14	2.14	1.42	0	0.42	1.05

Coffee Tied to Lower Risk of Dying Prematurely	2.18	3.93	3.49	0	0.41	0.35
Why I Will Never Vote for Donald Trump	3.9	1.78	0.25	0.85	0.42	0.536667
12 Minutes of Yoga for Bone Health	3.39	2.4	0.8	0.2	0.39	0.46
WWII Hero Credits Luck and Chance in Foiling Hitler's Nuclear Ambitions	2.86	2.42	0.25	1.4	0.38	1.55
The Terrible Beauty of Brain Surgery	1.45	1.63	0.42	0.31	0.37	0.36
How Do Sunni and Shia Islam Differ?	1.68	1.92	0.12	1.32	0.35	1.12
The Case Against Woodrow Wilson at Princeton	2.34	1	0.33	0.33	0.35	0.58
Finding Alice's 'Wonderland' in Oxford	2.53	0.65	0.15	0.31	0.34	0.56
Finding Peace Within the Holy Texts	3.32	3.44	0.49	1.47	0.33	0.01
52 Places to Go in 2016	2.48	0.36	0.06	0.12	0.32	1.1
The One Question You Should Ask About Every New Job	3.96	1.66	0.24	0	0.32	0.45
Contaminating Our Bodies With Everyday Products	1.85	3.05	0.79	0.79	0.29	0.19
Drink to Your Health (in Moderation), the Science Says	2.69	2.17	1.13	0.26	0.26	0.52
The Best Movies of 2015	3.45	2.22	0.38	0.91	0.25	0.88
Short Answers to Hard Questions About Climate Change	2.6	2.4	0.58	0.35	0.25	0.76
The 10 Best Books of 2015	2.39	2.58	0.83	0.64	0.25	0.75
The Experts Were Wrong About the Best Places for Better and Cheaper Health Care	4	0.91	0.16	0.11	0.25	0.73
The Big Short,' Housing Bubbles and Retold Lies	3.94	2.34	0.25	1.11	0.25	0.5
Fearing Fear Itself	2.64	7.41	3.64	1.76	0.25	0.4
Saudi Arabia, an ISIS That Has Made It	1.77	4.55	1.01	2.4	0.24	0.72
When Philosophy Lost Its Way	2.42	1.37	0.07	0.39	0.24	0.62
Class Differences in Child-Rearing Are on the Rise	2.51	2.27	0.63	0.08	0.24	0.35
The Marshall Islands Are	0.99	1.87	0.2	0.59	0.24	0.24

Disappearing						
Goose-Steppers in the G.O.P.	3.75	2.58	0.47	1.17	0.23	1.83
The Christmas Revolution	4.69	2.56	0.43	0.43	0.23	1.41
The House That Julia Built	1.84	0.4	0.06	0.12	0.23	0.71
How Should You Manage Your Money? And Keep It Short	2.04	1.05	0.2	0	0.23	0.45
Our (Bare) Shelves, Our Selves	2.08	0.52	0	0	0.2	0.74
8 Things You Can Do Now to Save Money on Travel	3.42	0.75	0.08	0	0.19	0.09
Is the Drive for Success Making Our Children Sick?	1.9	5.28	2.08	0.17	0.18	0.15
The Brutalism of Ted Cruz	4.15	3.54	0.73	1.95	0.17	0.51
Agriculture Linked to DNA Changes in Ancient Europe	1.04	0.66	0.38	0	0.17	0.05
Anyone but Ted Cruz	2.01	1.76	0.25	0.75	0.17	0.01
Doubling Down on W	3	2.12	0.37	0.75	0.17	0
Fear, Loathing and Republican Debaters	2.2	4.02	1.83	1.46	0.15	0.04
At Thomas Keller's Per Se, Slips and Stumbles	2.28	1.86	0.21	0.28	0.14	0.22
The Best TV Shows of 2015	3.55	1.88	0.33	0.8	0.13	1.34
Who Turned My Blue State Red?	2.91	1.56	0.22	0.39	0.13	1.01
Simple Rules for Healthy Eating	3.31	1.33	0.58	0.17	0.13	0.63
A Mansion, a Shell Company and Resentment in Bel Air	1.14	1.18	0.17	0.41	0.13	0.2
12 Travel Apps Worth Keeping in 2016	3.26	0.33	0.08	0.08	0.11	0.58
ISIS Women and Enforcers in Syria Recount Collaboration, Anguish and Escape	1.42	2.7	0.41	1.22	0.09	0.51
Don't Let Kids Play Football	2.55	2.96	0.94	0.13	0.09	0.28
The Typical American Lives Only 18 Miles From Mom	2.71	0.52	0.13	0.06	0	1.48
A Carved Stone Block Upends Assumptions About Ancient Judaism	1.02	0.6	0.17	0.26	0	0.72
The Wisdom of the Aged	3.01	1.68	0.41	0.33	0	0.62
Brawn and Brains	2.41	0.92	0.23	0	0	0.58
A Medieval Antidote to ISIS	1.75	2.8	0.23	0.93	0	0.17

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Mean (Total)	2.648873	2.135352	0.538028	0.632394	0.351831	0.619249

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ประวัติผู้เขียนวิทยานิพนธ์

My name is Suttichart Denpruektham, I was born in 1988 in Bangkok, Thailand. I spend most part of my earlier life studying mathematics in Samuthprakarn high school. In 2007, I graduated from the Assumption University with a degree in English language communication.

I was born to a family of a journalist with our own publishing company and had been writing for professional publications for almost as long as I remember. I am currently working for the government-run English language television program, the NBT World as field reporter.

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