Is 140 Characters Enough?: Using Twitter as a News Source

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Twitter is an online website that connects users from around the world who can express what is on their mind in 140 characters or less. As of May 2012, 15% of online adults were using Twitter. The percent of adults who use Twitter on a typical day has doubled since May 2011 and quadrupled since November 2010. The demographic who has expanded their Twitter use the most are the youngest users, aged 18-24. Of that group, 31% are using Twitter and almost 20% use it on a daily basis. (“Twitter User 2012”, 2012).

Though it is a social media site, Twitter can be a valuable source of news information. The retweet and hashtag mechanisms of Twitter mean that a single post about an event can turn into the “tweet heard ‘round the world.” A retweet means that an original tweet is reposted, word for word, by another Twitter user. In this way a tweet by any user, whether they have 100 followers or a million followers, can be spread around the website. A hashtag is a way of grouping tweets. A person tweets using the sign #, followed by a word or phrase they think is significant. Then Twitter will make a page dedicated to all posts where that hashtag is used, and it becomes a trending topic. If a news event is happening, a large portion of the population is able to see it play out on Twitter.

A news event that found its voice on Twitter was the Arab Spring Uprising in 2011. Many major news organizations like MSN turned to Twitter to learn from on-the-ground sources and to rapidly disseminate information. Countries like Tunisia and Egypt did not have well organized mainstream news outlets for citizens to follow up on a news story and instead many citizens and global activists watched events unfold on Twitter (“The Revolutions were Tweeted”, 2011). Throughout the Arab Spring, Twitter’s retweet and hashtag mechanisms were heavily employed. Thus, if several users suddenly start talking about Egypt, “Egypt” becomes visible to all users through the trending topic feature. (“The Revolutions were Tweeted”, 2011). These hashtags helped users identify relevant tweets and gather more information. The Egyptian government recognized the power of Twitter so much that they disrupted the services of Facebook, Twitter, and Blackberry Messenger from January 27-February 2 of 2011 (“Timeline: Egypt’s revolution,” 2011).

The question is whether a user will choose to do more research on the story after they see a tweet or if they will ignore the news item. Our research seeks to discover how likely someone is to do further research, reply, or retweet a tweet that they have seen.

**Twitter Users and Uses**

While it may be assumed that Twitter is used mainly for its social utility, research has proven differently. In a 2009 uses and gratifications study by Johnson and Yang, it was found that users are primarily motivated to use Twitter for informational purposes. There were no significant relationships between the social gratifications and how often Twitter was used. However, all of the information gratifications showed significant positive relationships with Twitter use. These informational motives included: get information (facts, links, news, knowledge, ideas); give or receive advice; learn interesting things; meet new people; and share information with others (facts, links, news, knowledge, ideas). This finding is also consistent with the results of a 2012 study by Kleinot, Seymour & Vlach which revealed that social interaction was not a motive for Facebook users.

A 2012 Pew Research Center study by Mitchell, Rosenstiel & Christian demonstrates that those who use Twitter for news purposes vary. 39% of Twitter news users are 18 to 29 years old, nearly double the overall population, making college students a prime age group for our study. They are also more likely to be male (57%) and they are highly educated. Over a third (37%) have a college degree or beyond, which is greater than the 28% for all adults and fewer have no more than a high school diploma (34% versus 44% over all). Also, they are less white than the population over all. Another interesting statistic is that among Twitter news followers, 76% also go to home pages or use apps from a news organization very or somewhat often.

A large percentage of Twitter users use the network only for following purposes, meaning that they are reading others’ tweets but not actively publishing their own. In fact, the median number of lifetime tweets per user is one. This demonstrates that Twitter serves as a “one-way, one-to-many publishing service” for many users, rather than two-way communication network (Heil & Piskorski, 2009).

**Searching Beyond Twitter**

When users log-in to Twitter they are immediately faced with the Twitter news feed. This feed is a rapidly updating interface that displays the thoughts and information of those Twitter accounts that the user is following. It is this feature that will significantly affect the process of searching beyond Twitter. The first stage of searching on social media is the Discovery stage. In this stage the individual encounters the news item.According to Kleinot, Seymour, and Vlach (2012) which explains searching beyond Facebook, “The first stage is the individual’s discovery of the news item. This could be affected by the amount of time that they spend on Facebook, the number of their friends that are posting about the topic, or if they had encountered the news somewhere else.” News is encountered through the sites newsfeed. News feed allows individuals to share information passively by posting their actions to the feed at large, rather than to a specific person (Sun, Rosenn, Marlow, & Lento, 2009). We forward that this initial stage on Facebook is similar to news searching on Twitter. However, we believe there is one significant difference: update time.

The update time of a status on Facebook is significantly slower than the instantaneous update on Twitter. Information processed while on Twitter is processed under short term memory. Short-term memory relates to what an individual is attending to at any given moment in time. Short term recall of this information will only last somewhere between 15 to 20 seconds unless it is repeated (called maintenance rehearsal; Huitt, 2003). For this reason, Twitter users have a much shorter time to process the information and determine its validity. Though the initial stage of contact with the news item mirrors the first stage of searching on Facebook, we believe the second stage of the process to be much more significant in determining searching beyond the twitter interface.

During the second, or “Confirmation” stage of the process, initial exposure to a tweet is confirmed by a second display of the information. As mentioned earlier, processing time is shorter on Twitter than on most micro blogging sites. For this reason, though a user may be exposed to a certain piece of information, it may not seem credible or search-worthy until the user is confronted with said information for a second time. This second exposure can come from (1) a subsequent tweet or (2) the information presented as a “trending topic.” First, whether occurring 15 seconds or 20 minutes after initial exposure to the information, a subsequent tweet will help validate the first. This tweet is crucial in making the first piece of information a news item and therefore search worthy for the individual. Second, on the left side of the newsfeed are trending topics. Having the initial information displayed as a trending topic can also act as a form of confirmation. It is this confirmation stage that allows the user to process the information and to determine whether or not the information is a news topic and not an isolated piece of information.

The last, or Decision stage, concludes whether the the user will search for the information beyond Twitter. This step is determined by two factors working in tandem: need for cognition, personal interests, and source reliability. Need for cognition is a factor that will impact whether the participants choose to engage in further research on the news items they first become aware of from Twitter. Need for cognition was first defined by Cohen, Stotland and Wolfe in 1955 as a “need to structure relevant situations in meaningful and integrated ways” (p. 291). They state that individuals vary in the amount of arousal they experience from a certain topic and the satisfaction they receive from continuing their research. Individuals who are high in need for cognition will experience tension and anxiety when their need for cognition is not satisfied. These studies support the idea that an individual high in need for cognition would be likely to participate in further research if a Twitter post did not fully satisfy their need for cognition (p. 292). Due to the limits placed on Twitter users to limit posts to 140 characters, there is little information available in every post, which makes it more likely that users would feel the need to gain more knowledge.

Going beyond basic need for cognition is individual’s motivation to participate in further research. There are several aspects to motivation, the orientation of motivation (intrinsic vs. extrinsic) and the level of motivation (high vs. low; Ryan and Deci, p. 54). Intrinsic motivation is defined as “persistence at an activity in the absence of contingent external rewards” (Thompson, Chaiken & Hazlewood, 1993, p. 287). A person high in need for cognition is more likely to be intrinsically motivated; if they choose to research a topic further, it is for personal betterment. The intrinsically motivated person finds joy in the task of further research regardless of whether they will receive some type of prize, be it praise or a physical item. These individuals would continue the research because the process of gaining more knowledge is enjoyable. Extrinsic motivation is “doing something because it leads to a separable outcome” (Ryan and Deci, p. 55). Individuals who are extrinsically motivated would be less motivated by their need for cognition. They would participate in further research because they will receive praise from someone or a physical item. This leads to the idea that the extrinsically motivated person may be more motivated by need for social interaction than they are by need for cognition. These considerations imply the following hypotheses:

H1: A user high in need for cognition would be more likely to seek further information to confirm what they have been exposed to than a user low in need for cognition.

H2: A user low in need for cognition would be more likely to retweet or reply to a tweet that they have been exposed to than a user high in need for cognition.

It also stands to reason that Twitter users choose to follow other Twitter users based on their own personal interests. By having the power to choose who you follow on Twitter, users are limiting their exposure to other information that they may not otherwise encounter. For example, men who are interested in basketball will be more likely to follow ESPN or the NBA Twitter account than women who do not have this interest. In the same way, a female interested in fashion is much more likely to follow designers and fashion magazines like InStyle. The following hypothesis is suggested:

H3: There will be a distinction in the topics that female users and male users choose show interest in, reply to, retweet, and seek further information for.

As previously discussed, a trending topic is something that many other users on Twitter are interested in and talking about. A user would be more likely to seek further information on a topic that is trending than one that is not trending because they want to be knowledgeable about what other people are tweeting about. The user would see that a trending topic means that this topic is something that is important and current and would therefore want to learn more about it. The following hypothesis is suggested:

H4: A user is more likely to seek further information on a trending topic than on a topic that is not trending.

One further issue is related to reliability and further research. On one hand, users may be more likely to further research the tweet of an unreliable source in order to check its validity. On the other hand, users may be more likely to further research the tweet of a reliable source because they believe it to be trustworthy and want to gain more knowledge about the topic. For this reason, we will pose a research question.

RQ1: What is the relationship between the perceived reliability of the source and the likelihood that the user will seek further information?

These hypotheses and research question were evaluated in the following study.

**Methods**

**Pretest**

 A pretest was completed to test the perceived reliability of the sources and whether participants considered the chosen topics to be geared towards men, women or gender neutral. The researchers chose six topics for possible use in the study. A reliable and unreliable source was chosen for each topic and the topics were either geared towards a male audience, a female audience or were gender neutral.

The first question asked participants to choose the source they trusted more in regards to a certain topic. Of the 40 participants in the pretest, on the topic of sports 39 participants (97.5%) found @ESPN to be more reliable than @tdysports, on the topic of fashion 37 participants (92.5%) found @InStyle to be more reliable than @FashionFunblog, on the topic of music 38 participants (95%) found @RollingStone to be more reliable than @songza, on the topic of hard news 40 participants (100%) found @NYTimes to be more reliable than @TheOnion, and on the topic of celebrity news 33 participants (82.5%) found @Peoplemag to be more reliable than @PerezHilton. Of the 40 participants, on the topic of politics 23 participants (57.5%) found @TheDailyShow to be more reliable than @WhiteHouse. The topic of politics was omitted from the rest of the study because there was not consistent agreement in which source was more reliable.

The second question asked participants to identify whether a topic would be more appealing to men, women or gender neutral. Of the 40 participants, 40 participants (100%) found sports to be of interest to men, 40 participants (100%) found fashion to be of interest to women, 35 participants (87.5%) found celebrity news to be of interest to women, 38 participants (95%) found music to be a gender neutral topic, and 36 participants (90%) found hard news to be a gender neutral topic. Of the 40 participants, 16 participants (40%) found politics to be of interest to men while 24 participants (60%) found politics to be a gender neutral topic. Because there was an absence of agreement in the interest based on gender for the topic of politics, this was further support for the decision to omit politics from the research study.

**Participants**

Participants were students from a mass communication course at the University of Delaware, a medium sized Mid-Atlantic university. The participants completed the survey questions in exchange for extra credit for the course. Of the 223 people who participated, 162 were Twitter users and 61 were not. There were 151 (67.7%) females 71 (31.8%) males and one (.4%) other. Fifty five (24.7%) were freshmen, 77 (34.5%) were sophomores, 50 (22.4%) were juniors, and 41 (18.4%) were seniors. One hundred and thirty (58.3%) were in the College of Arts and Sciences, 37 (16.6%) in the College of Education, 27 (12.1%) in the College of Health Sciences, 22 (9.9%) in the College of Business and Economics, 12 (5.4%) in the College of Engineering, and 4 (1.8%) in either the College of Agriculture or the College of Earth, Ocean and Environment. Finally the respondents were asked how often they consume news in general and the results showed that 29 (13%) consume news very often, 86 (38.6%) quite often, 89 (39.9%) sometimes, 16 (7.2%) rarely and 3 (1.3%) never.

**Measures**

Initially participants were told that researchers were interested in how they use social media to follow news trends. Then they were asked a series of questions. First, respondents were asked if they were a Twitter user, and then were directed to two different sets of questions depending on their response. For those who answered no, respondents were asked where they get their news from outside of Twitter. The categories were Google or other search engines, Hard News websites, Soft News websites, Blogs, Social Media websites, Traditional Media outlets, or face-to-face interaction. They were shown a Twitter feed with descriptions of the different features; see the Appendix for the description guide. Respondents were then asked how confident they were about their ability to successfully navigate a Twitter page after seeing that guide.

For those who answered yes, they were then asked how they would classify their proficiency with Twitter, how often they use Twitter, how many followers they have on Twitter, how many accounts they follow, what kind of accounts they follow, how often they tweet, how often they check their newsfeed, and how likely they are to learn about news on Twitter. The next set of questions asked respondents what kinds of accounts they usually learned about news from. Then they were asked how often they reply to a tweet, how often they retweet a tweet, how often they use Twitter as a news source, and how often they search elsewhere about a news item after seeing it on Twitter. They were asked about where they might do further research on a news item, with the same options as the analogous question for non Twitter users.

 The survey will then display two different versions of a Twitter feed screenshots. Each would have the same collection of tweets from the sources listed above, but will list different trending topics. In order to compare if a trending topic and if the reliability of the sources will have as an effect on audience interest we will have four conditions: reliable trending, reliable not-trending, unreliable trending, and unreliable not-trending. The *reliable* trending condition will have one of the reliable source topics in the “trending topic” section of the newsfeed along with miscellaneous other topics trending. The *unreliable* trending condition will have one of the unreliable source topics in the “trending topic” section of the newsfeed along with miscellaneous other topics trending. The non-trending conditions will not have any of the sources trending. We chose to display the sources into these four conditions to counterbalance possible effects. Therefore, we were able to evaluate participants response to reliable sources trending vs. unreliable sources trending separately.

Participants were then asked to rank the tweets in order of interest to them, with 1 being the most interesting and 10 being the least interesting. Next, participants were shown each tweet individually and asked how likely they would be to retweet, reply, or do further research on that one particular tweet. We then asked participants 18 questions on a five point scale to measure their need for cognition. They were questions selected from Cacioppo & Petty (1982) and after 2 questions were omitted there was a Cronbach’s alpha of .842**.** At the end of the survey, participants were asked their gender, year in school, what college they are registered in, and how often they consume news.

**Results**

**Descriptive Statistics**

Of the 162 twitter users 22 (13.6%) classified themselves as beginners, 62 (38.3%) as intermediate and 78 (48.1%) as advanced. Of the Twitter users, 107 (66%) use it daily, 30 (18.5%) use it 3-4 times per week, 15 (9.3%) use it 1-2 times per week, 2 (1.2%) use it every 2 weeks and 8 (4.9%) use it less often than every 2 weeks. The respondents who are not Twitter users were shown a video so that they would have a better understanding of Twitter. After viewing the video, they were asked about how confident they felt in their ability to now use Twitter. Of the 61 non-Twitter users, 22 (36.1%) were very confident in their ability to use Twitter, 20 (32.8%) were confident, 18 (29.5%) were neutral and only one participant was not confident in their ability to use Twitter.

The Twitter users were then asked more specific questions about how many people they follow and what types of people they follow. Sixteen (9.9%) had between 0-50 followers, 32 (19.7%) had 50-100, 29 (17.9%) had 100-150, 28 (17.3%) had 150-200, and 57 (35.2%) had more than 200. The Twitter users reported that 19 (11.7%) of them followed less than 50 accounts, 19 (11.7%) of them followed between 50-100, 35(21.6%) 100-150, 34 (20.9%) 150-200 and 55 (34%) more than 200. Of the individuals who follow others on Twitter, 158 (70.9%) follow family/friends, 111 (49.8%) follow acquaintances, 83 (37.2%) follow sports themed accounts, 48 (21.5%) follow fashion themed accounts, 32 (14.3%) follow politics themed accounts, 105 (47.1%) follow music themed accounts, 43 (19.3%) follow hard news themed accounts, and 132 (59.2%) follow entertainment themed accounts.

Of the respondents who use Twitter, 9 (5.6%) never tweet, 96 (59.3%) tweet occasionally, and 57 (35.2%) tweet very often. The results showed that as a general rule users view their Twitter feed more often than they tweet, as one (0.6%) never checks their twitter feed, 48 (29.8%) occasionally check their twitter feed, and 112 (69.6%) check their twitter feed very often.

The respondents were asked about the process that they normally go through when they are looking for news. The results showed that traditional search engines, face-to-face contact, social media (facebook, Google+) and traditional media (radio, TV, newspaper) were the most popular forums for learning about news. One hundred and thirty (60.8%) of the respondents either always or often learned news from a search engine, 83 (38.8%) respondents either always or often from face-to-face interactions, 71 (33.2%) either always or very often from social media, and 68 (31.7%) either always or very often from traditional media. In general the respondents were fairly neutral in their use of hard news websites (New York Times, CNN) or soft news websites (E! News, People) to learn about news. The respondents showed a clear aversion to gaining news from blogs, 178 (83.2%) of the respondents said they never or rarely gain news from a blog.

The respondents were then asked how likely they would be to find out about a news item on Twitter. Fiftyseven (35.2%) would be very likely to find out about news on Twitter, 50 (30.9%) fairly likely, 36 (22.2%) somewhat likely, 12 (7.4%) not very likely, and 7 (3.1%) not at all likely. When asked what Twitter accounts the respondents get news from, 71 (45.8%) get news from close family and friends, 15 (9.7%) from acquaintances, 44 (28.4%) from organizations and 25 (16.1%) from public figures. Finally, the respondents were asked how often they actively use twitter as a news source. Twelve (7.7%) never use twitter as a news source, 38 (24.5%) use it once in awhile, 49 (31.6%) use it occasionally, 49 (31.6%) use it often and 7 (3.1%) always use it.

Twitter users were asked about what steps they take after they see something on Twitter and how likely they would be to retweet, reply or do further research on a topic they came across. Of the respondents who are Twitter users, 51 (32.9%) frequently reply to tweets, 94 (60.6%) occasionally and 10 (6.5%) never. The results for respondent’s likelihood to retweet were fairly similar to replying to a tweet, 40 (25.8%) frequently retweet a tweet, 107 (69%) occasionally, and 8 (5.2%) not at all. Finally the respondents were asked how likely they are to further research a news item that they become aware of on Twitter 2 (1.3%) never do further research, 23 (14.8%) once in awhile, 47 (21.1%) occasionally, 60 (26.9%) often, and 23 (10.3%) always.

**Hypothesis Tests**

Hypothesis 1 postulated that those high in need for cognition would be more likely to seek further information to confirm what they have been exposed to than a user low in need for cognition. Over the course of the 10 tweets, only 2 tweets gave evidence to support this hypothesis. Tweet 3 was a tweet from @songza, an unreliable music source that also contained a trending topic; *r* = .178, *F*[222] , *p* = .008. Tweet 4 was a tweet from @InStyle, a reliable fashion source; *r*=.129, *F*[222], *p*=.026. Overall, there was not general support for Hypothesis 1.

Hypothesis 2 predicted that those low in need for cognition would be more likely to retweet or reply to a tweet that they have been exposed to, than a user high in need for cognition. Of the 20 tweets, only 2 tweets gave evidence to support this hypothesis. Those two tweets were in regards to the question about retweeting, as none of the tweets about replying were significant. Tweet 1 was a tweet from @tdysports, an unreliable sports source; *r*=-.136, *F*[222], *p*=.043. Tweet 4 was a tweet from @InStyle, a reliable fashion source; *r*=.137, *F*[222], *p*=.042. Overall, there was not general support for Hypothesis 2.

Hypothesis 3 forecasted that there will be a distinction in the topics that female users and male users choose to show interest in, seek further information, retweet, and reply to. This hypothesis was supported for the majority of tweets in each category. Beginning with showing interest, over the course of the ten tweets, eight gave evidence to support this hypothesis (see Table 1 below). Turning to replies, as seen in Table 2 below, only three of the ten tweets gave evidence to support this hypothesis, so, overall, the replies component of Hypotheses 3 was not generally supported. As for retweets, across the 10 tweets, five tweets gave evidence to support this hypothesis (see Table 3). Finally, eight tweets gave evidence to support the further research component of this hypothesis (Table 4). Overall, Hypotheses 3 was supported.

Table 1 – Gender Difference in Tweet Interest

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| **Gender Differences in Tweet Interest** |
| Tweets | Male Mean | Female Mean | T | P |
| Sports (Unreliable) | 3.07 | 6.26 | -8.141 | .000 |
| Celebrity News (Unreliable)  | 6.41 | 4.75 | 4.249 | .000 |
| Music (Unreliable) | 5.04 | 5.82 | -2.326 | .021 |
| Fashion (Reliable) | 7.99 | 4.50 | 11.032 | .000 |
| Fashion (Unreliable)  | 8.17 | 4.40 | 12.958 | .000 |
| News (Unreliable) | 5.07 | 6.45 | -3.815 | .000 |
| Sports (Reliable) | 3.18 | 7.05 | -10.396 | .000 |
| News (Reliable) | 4.61 | 3.96 | 1.595 | .112 |
| Music (Reliable) | 5.52 | 6.64 | -2.931 | .004 |
| Celebrity News (Reliable) | 5.94 | 5.16 | 1.704 | .090 |

Table 2 – Gender Difference in “Seek Further Information”

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| --- |
| **Gender Differences in “Seek Further Information”** |
| Tweets | Male Mean | Female Mean | T | P |
| Sports (Unreliable) | 2.56 | 1.63 | 6.866 | .000 |
| Celebrity News (Unreliable)  | 1.23 | 2.36 | -8.579 | .000 |
| Music (Unreliable) | 2.51 | 2.90 | -2.645 | .009 |
| Fashion (Reliable) | 2.34 | 1.87 | 2.974 | .006 |
| Fashion (Unreliable)  | 1.11 | 2.08 | -7.640 | .000 |
| News (Unreliable) | 2.17 | 2.69 | -3.234 | .001 |
| Sports (Reliable) | 1.61 | 1.97 | -2.621 | .009 |
| News (Reliable) | 2.00 | 1.89 | .750 | .454 |
| Music (Reliable) | 1.69 | 1.50 | 1.553 | .122 |
| Celebrity News (Reliable) | 2.18 | 1.39 | 6.217 | .000 |

Table 3 – Gender Difference in Retweeting

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| --- |
| **Gender Differences in Retweeting** |
| Tweets | Male Mean | Female Mean | T | P |
| Sports (Unreliable) | 1.77 | 1.31 | 3.997 | .000 |
| Celebrity News (Unreliable)  | 1.11 | 1.51 | 3.580 | .000 |
| Music (Unreliable) | 1.63 | 1.72 | -.644 | .520 |
| Fashion (Reliable) | 1.79 | 1.45 | 2.764 | .006 |
| Fashion (Unreliable)  | 1.11 | 1.32 | -2.397 | .017 |
| News (Unreliable) | 1.46 | 1.62 | -1.188 | .236 |
| Sports (Reliable) | 1.25 | 1.30 | -.516 | .606 |
| News (Reliable) | 1.66 | 1.44 | 1.899 | .059 |
| Music (Reliable) | 1.35 | 1.21 | 1.643 | .102 |
| Celebrity News (Reliable) | 1.49 | 1.19 | 3.226 | .001 |

Table 4 – Gender Difference in Replies

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| --- |
| **Gender Differences in Replies** |
| Tweets | Male Mean | Female Mean | T | P |
| Sports (Unreliable) | 1.34 | 1.18 | 1.983 | .054 |
| Celebrity News (Unreliable)  | 1.08 | 1.26 | -2.308 | .022 |
| Music (Unreliable) | 1.52 | 1.41 | .949 | .344 |
| Fashion (Reliable) | 1.51 | 1.23 | 2.748 | .007 |
| Fashion (Unreliable)  | 1.08 | 1.23 | -1.940 | .054 |
| News (Unreliable) | 1.31 | 1.38 | -.624 | .533 |
| Sports (Reliable) | 1.21 | 1.23 | 1.418 | .858 |
| News (Reliable) | 1.38 | 1.25 | 1.803 | .158 |
| Music (Reliable) | 1.31 | 1.17 | 1.803 | .073 |
| Celebrity News (Reliable) | 1.38 | 1.15 | 2.765 | .006 |

Hypothesis 4 postulated that a Twitter user is more likely to seek further information on a trending topic than on a topic that is not trending. In the reliable trending condition, where @RollingStone had a trending topic, the mean for further research was 2.00. When it was not trending, the mean was 1.84; *t*(221)=1.133, *p*=.26. In the unreliable trending condition, where @songza had a trending topic, the mean for further research was 1.51. When it was not trending, the mean was 1.61; *t*(221)=.83, *p*=.41. Overall, there was not general support for Hypothesis 4.

Research Question 1 asked whether there is a relationship between the reliability of the source and the likelihood that the user would seek further information. Of the 5 topics, 4 showed that the more reliable source was more likely to be further researched than the unreliable source. Fashion was the only topic that showed the unreliable source as more likely to be further researched. Table 5 below demonstrates the relationship between reliability and further research.

Table 5 - Tweet Reliability Differences in Likelihood of Seeking Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Topic | Reliable Mean | Unreliable Mean | T-Test | Probability |
| Sports | 1.93 | 1.64 | 4.392 | <.001 |
| Fashion | 1.77 | 2.00 | 3.390 | .001 |
| Hard News | 2.78 | 2.03 | 8.395 | <.001 |
| Celebrity News | 2.52 | 1.86 | 8.925 | <.001 |
| Music | 1.92 | 1.56 | 5.405 | <.001 |

**Discussion**

 This study was designed as a means to determine individuals’ reactions to news items on Twitter. We wanted to investigate how likely Twitter users are to show interest in, reply to, retweet, or further research a tweet after being exposed to it, and what the reasoning behind their reactions are. We proposed that need for cognition was a factor in users’ responses to tweets. Those high in need for cognition would be more likely to do further research, while those low in need for cognition would be more likely to reply or retweet. We also hypothesized that the gender of a user would affect their response to certain tweets. Our final hypothesis posed that trending topics would be more likely to be further researched than topics that were not trending. In addition, we questioned the relationship between a source’s reliability and how likely further research would be.

 We found that a majority of our respondents were seasoned Twitter users who checked their newsfeed often. A majority said they would be fairly or very likely to find news items, but they would mostly be tweets from family and friends. Most respondents did not use Twitter as a news source. A little more than half of participants said they would occasionally reply to or retweet a tweet, but it did not seem to be a large part of their Twitter use. Participants did not seem to be inclined to do further research on a news tweet, with just 10% saying they always do research. There was not general support for either hypothesis regarding need for cognition. Those high in need for cognition did not seem more likely to do research on a tweet, and those low in need for cognition did not seem to be more inclined to retweet or reply to a tweet. Our respondents did not seem more interested in tweets containing trending topics than tweets without trending topics. When it came to the reliability of the source, the more reliable the source was perceived to be, the more likely people would be to do further research.

 More specifically, Hypotheses 1 and 2 were not supported by the data. There was no clear support that Twitter users high in need for cognition would be more likely to participate in further research, nor that users low in need for cognition would be more likely to reply or retweet a tweet. It is possible that the users were not interested in the tweets that they were presented with in this study. It is likely that the participants had interest in the general topics that we chose (music, sports, celebrities), but were not interested in the specific concert, sport or celebrity that were featured in the study. Regardless of whether the users were high or low in need for cognition, if they were uninterested in the specifics of a tweet it is unlikely that they would participate in further research or reply to or retweet a tweet. Another problem with the study was that the tweets were chosen one-two weeks prior to the participants completing the survey. It is possible that after that amount of time the participants had already heard about this news item. The participant would then be unlikely to do further research or reply to or retweet because they considered that tweet “old news.” The final problem with Hypotheses 1 and 2 was that the questions that identified whether a person was high or low in need for cognition were close to the end of the survey. It is possible that at this point the participants had lost interest in the survey and were not answering the questions in the an accurate manner.

Hypothesis 3 was generally supported by the data. Three of its components, showing interest in, retweeting, and seeking further information, were all supported by the data; the reply components was generally not supported. Across the board the topic considered stereotypically male in our pretest, sports, showed significant difference between males and females in the above three components, with males more likely to retweet, reply and show interest. The topics considered stereotypically female in our pretest, fashion and celebrity news, also showed significant differences between males and females across the three components.

Interestingly enough, however, when it came to retweeting and conducting further research males were more likely to do both for two topics: reliable celebrity and reliable fashion.

We attribute this not to the topic but the nature of the tweets. The reliable celebrity tweet was about the death of an reality show star from MTV’s *Buckwild,* a show considered to have many *Jackass* elements, another MTV show dominated largely by a male audience. Therefore, it is not the topic that drove the desire to retweet or seek further information, but the the actual story that the tweet presents. The unreliable fashion tweet insinuates that actor, Reese Witherspoon has done something drastic to her hair. Again, men were more likely to reply, retweet and seek further information on this tweet than women. We attribute this to the fact that men like Reese Witherspoon. They are more likely to reply, retweet or seek further information because of their interest in her, even though this was considered to be a topic of interest to women.

Topics considered to be gender neutral in our pretest, music and news, yielded results that were not so neutral. Where our pretest would suggest there would be no difference between men and women for these topics, our results showed otherwise. The unreliable music and news tweets showed women as more likely to seek further information. Music whether reliable or unreliable was of more interest to female participants. Lastly, unreliable news was of more interest to males.

Hypothesis 4 was not supported by the data. This hypothesis dealt with the issue of trending topics and whether they would be of greater interest than a non-trending topic to participants. This hypothesis could have failed because only one topic was trending in each newsfeed. If more topics had been trending on the newsfeed then the participants may have paid more attention to them. Also, as discussed with Hypotheses 1 and 2, the participants may not have had a specific interest in the topics that were trending so they would have no desire to do further research.

 Our research question aimed to determine how the reliability of a source affects whether or not users further research a topic. Our findings proved that in most cases, users are more likely to further research tweets that come from reliable sources. We believe this could be due to users who are more likely to ignore unreliable sources and lack trust in their validity. Therefore, they only pay attention to sources that they deem reliable. The only case in which the unreliable source was more likely to be further researched was on the topic of fashion. This could be due to fashion being viewed as more of an “opinion-based” and creative topic, making the reliability of a source not a significant issue.

**Limitations and Further Research**

 During the course of our study, there were a few factors that limited our research. First, the age group surveyed was between 18-22 years old. While statistically most Twitter users are younger, it may have changed the results regarding which topics they found interesting. It would be interesting to do further research to see whether age differences affected news gathering and interest levels. Second, the instructional video created for non-Twitter users may not have been as effective as expected. In turn, this may have affected their responses to the survey. A third limitation we faced was that we only had one topic trending in both versions of the newsfeed. The topic, music, may not be of interest to all of those who took the survey and therefore was not a valid representation of the effect trending topics have on retweeting, replying, or further research. It would be interesting to replicate this study in real time, when a really big news event was happening, to see if that affected how much people wanted to find out about it.

In a future study there could be several changes to assist in supporting Hypotheses 1 and 2. The first would be to have individuals use their own Twitter account, as this would ensure that the accounts in their Twitter feed would be of interest to them. The problem here would be that only Twitter users would be able to participate in the study and the newsfeed would vary for each participant. In order to avoid news being outdated, the tweets could be chosen the day before the survey was released and to only allow one day for the participants to complete it, rather than a full week. The problem in this scenario would be that the photoshopping of the Twitter news feed is time consuming and all participants may not be available to complete the survey in only a 24 hour period. Finally, the questions that would identify a participant as being either high or low in need for cognition would be distributed throughout the survey instead of all placed at the end.

 In the study about Facebook and news by Kleinot, Seymour and Vlach (2012), need for cognition impacted the likelihood of an individual to do further research on a topic which they first became aware of on Facebook. A possible explanation for the lack of impact for need for cognition amongst Twitter users is that users are more likely to follow sources who they are not friends with in real life (ex. Perez Hilton, Bill Clinton), but on Facebook you are much more connected to your real friends. Users might be more likely to seek information if it has to do with their friends than if it has to do with someone or something that is more detached from them. In future research, a comparison could be made between the use of Facebook and Twitter in order to understand how the news search process is different on each social media site. A study that compared the two social media sites could give insight into why need for cognition did not have an effect on a Twitter user’s likelihood to do further research.

In order to learn more about the research question that was posed in this study, further research could look at a different news source and see if an individual is more likely to research a reliable or unreliable source reporting on the same topic. The research question showed that Twitter users were more likely to research something that came from a reliable source. The proposed research would show whether this held true for all types of news sources or only for news that was first learned about on Twitter.

As mentioned above, the video created for non-Twitter users may not have been detailed enough to give them an adequate understanding of Twitter. Further research could look into how a new Twitter user learns how to use Twitter and how long it takes a new user to consider himself an intermediate or advanced user. This research would provide insight into whether the new Twitter users in the present study had skewed the results because they did not fully grasp the concept of how to use Twitter.

**Appendix - Descriptions for Non-Twitter Users:**

**Tweet**- A message written by a Twitter user in 140 characters or less. Users can incorporate hashtags or mention other Twitter users in a Tweet.

**Username** - This identifies the person, organization, etc. that is sending out the tweet.

**Hashtag** - A hashtag is used in a tweet to mark keywords or topics and also categorize tweets. When you click on a hashtagged word in a tweet, it shows you all other tweets marked by that keyword. A hashtag is marked by the symbol # followed by a word or phrase.

Ex: #phillies or #rainyday

**Retweet** - When you retweet, you are sharing someone else’s tweet with all of your followers and it will appear on both of your newsfeeds.

**Reply** - You can reply to a tweet by pressing this button and adding a comment in response to another’s tweet. Whoever you are replying to will be mentioned (Ex: @twitteruser) in the Tweet you are sending out.

**Trending Topics -** Based on your location and who you follow, these topics are the most popular and common amongst Twitter discussion. These topics may or may not have a hashtag in front of them. By clicking on a trending topic, you will be taken to Twitter search results for that trend, which include any tweet that contains that phrase or hashtag.

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