

UNIVERSITY OF KWAZULU-NATAL

The perception of university students on the diffusion of fake news on social media: A case of the University of KwaZulu-Natal (UKZN)

By

Ndamuso Bahige

212547252

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**School of Management, IT and Governance
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Supervisor: Prof Manoj Maharaj

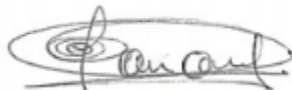
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ABSTRACT

Fake news is a digital but also ethical issue, and it has been one of the challenges of the media for the past decade. Fake news is defined as news articles that are false by intention and whose goal is to mislead readers. The concept of fake news is not new. For a long time false information has been used by parties to turn the population against other opposing parties. However, since the 2016 American elections, the amount of fake news disseminated has increased significantly. The Internet is playing a huge role in the broadcast of information, but it creates a danger to individuals and societies because it is a perfect platform for propagating fake news and other false information. The fact that the internet provides anonymity has given anyone the ability to launch a website and make it look authentic, including anyone with the intent to cause harm.

It is uncertain as to what extent students in South Africa (SA) are aware of the concept of fake news being disguised as real news and diffused on social media. It is also hard to define the dangers that fake news presents to students in SA, in terms of their education, as well as the development of the country since they hold the future of the country in their hands. Hence, this study was aimed to investigate the perceptions of South African students on the propagation of news on social media.

The objectives of this study were achieved by using a descriptive design and quantitative methodology to collect and analyze data. Questionnaires were distributed to a total of 370 students, but only 362 questionnaires were valid to be analyzed. The analysis was carried out using the Statistical Package for the Social Sciences (SPSS). The results showed that the students indicated that they trust their social media platforms as news sources. They also indicated that they can recommend them to their friends, but also that they can consider acquiring news from social media if they friends or family recommended them. The results also showed that students indicated that they trust the news they acquire from social media. Some of the respondents indicated that they would share news on social media if they were convinced of the credibility of the news. However, some of the respondents indicated that they would share interesting news on social media even if they are not sure of the credibility of the news. The perspective that students have on the security of social media applications is also presented in this study.

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CHAPTER ONE: INTRODUCTION

1.1. Introduction

In recent years, the term ‘fake news’ has been a topic for important media discussions. Before, fake news was used to make the news interesting so as to sell copies. But nowadays, fake news has turned into a significant internet phenomenon. Whether, defined as simple gossip, misrepresentations, alternative facts, post truths or just lies, these facts are published on internet sites and spread through social media to influence the opinion of the audience. Since the taking of office in January 2017, the administration of Donald Trump has called reports made by the American Broadcasting Company (ABC), the Columbia Broadcasting System (CBS), the National Broadcasting Company (NBC), the Cable News Network (CNN), BuzzFeed, the New York Times, and the Washington Post ‘fake news’. In the last couple of months, politicians and some public figures have redefined the meaning of the concept fake news. They have used it to refer to the undesirable reports made by the traditional news media in reference to them (Klein & Wueller, 2017).

It is important to give an example of fake news, as well as a brief explanation of how fake news publishers work, before a definition of fake news can be given. Before the 2016 US elections, a group of news publishers in Macedonia released a false story that the former first lady, secretary of State, and candidate for Presidency Hillary Clinton and other political figures from the Democratic Party were involved with child trafficking. This publication did not only go viral on Facebook, it was also directing readers to other web sites containing adverts so that the publisher could generate funds for advertisement (Klein & Wueller, 2017). This example illustrates one of the major components of fake news publications, and it is falsity. The facts contained in fake news articles are knowingly made up and false. Most of the fake news articles are either about public figures or about the debatable events that are happening in the moment. They are shared on social media with a goal of going viral. Another goal might be to generate revenue. Many fake news publishers gain money from web traffic. They connect the posts on social media with web pages containing adverts. A successful fake news post can receive up to a million shares and therefore produce a lot of money advertisement funds (Staffers & Hackett, 2017).

The concept of fake news is not new in news diffusion history. Research shows that political parties were using the earliest American newspapers to propagate lies about opposing parties. This trend was conducted until the 20th century, when the standard for professional news outlets became objectivity and accuracy (Stoffers, 2017). In the past few years, the standards for professional news outlets became inadequate due to the growth and easy accessibility of the internet, but more importantly social media. Targeting viewers with news that are politically biased or designed to catch the public attention has become easy (S. McGrew, T. Ortega, J. Breakstone, & S. A. M. Wineburg, 2017b). Even though the concept of fake news has been around many years, the way it is being shared on social media, especially Facebook and Twitter, is making it an epidemic (Burkhardt, 2017). In addition to this, the fact that anonymity is provided by the internet gives everyone with access to a computerized device to come up with a site and give it a look and feel of sites that broadcast appropriate and accurate news. This includes a person with the intention of harming a candidate in a political context, or a blogger in a social context, or just with simple intentions of making money by posting paid adverts on their fake news site (Stoffers, 2017).

1.2. **Background of the study**

According to Allcott and Gentzkow (2017) fake news is defined as being news articles that are purposely false and are designed to deceive readers. Fake news was used, for a long time, by parties to turn the population against other opposing parties (Alvarez, 2016). For a long time, Russia has used hackers, media outlets, twitter bots and bloggers to diffuse false information in order to provide support for the country and destabilize the enemies outside of the country (Reston, 2017). But since the 2016 American elections, the amount of fake news disseminated by Russia has doubled and most of the stories are twisted from real stories and with the goal of favoring the Russians. Nowadays the internet is playing an important part in the broadcast of news, and is a danger to individuals and societies due to the fact that it is a perfect platform for propagating false information. The fact that the internet can provide anonymity to its users along with the fact that people are always attracted to shocking headlines make it easier for anyone to make up a story and people will still believe it (Haire, 2017).

As 2016 came to an end, the concept of fake news was already popular. It was widely reported and investigations were conducted to understand how false stories about political issues were being

accepted by the readers. The false stories that were diffused in 2016 were well made up to the extent that they were hard to differentiate from facts (Haire, 2017). But a long time before President Trump came up with the name fake news, studies had already shown that people in America had lost trust in media. According to Gallup, Pew and other pollsters, 70 percent of Americans do not trust the traditional sources of news and are now using social media as their primary news source, but also other alternative sources of news on the internet (Jasper, 2017). Most of the adults in the United States of America use social media as their news source where most of the fake news stories are being shared. The disappointing fact is that most of the people reading fake news have claimed to have believed them (Allcott & Gentzkow, 2017).

However, Hamm (2017) states that social media should not be blamed for the increase in the production of fake news. Traditional media has become a marketing tool for international corporations, politicians and rich families. This is proved to be true by the fact that the fake news label is being put on online social media. In other words, traditional media's original duties were to diffuse news. However, nowadays traditional media has become a tool to market international corporations and to portray the lives of people who are living luxuriously. This being one of the reasons why social media has turned into a trustworthy source of news for many people, making social media a suitable platform for fake news diffusion.

1.3. **Rationale**

The epidemic of fake news is big and complex and fake news is hard to detect (Staffers & Hackett, 2017). Though social media platforms have many opportunities to expose their users to fake news, it is uncertain of how often an individual falls for the false information that they are reading on social media (Borel, 2018). Additionally, it is not known how students in South Africa perceive the concept of news diffusion on social media platforms. For this reason, it was important to conduct a study that aimed to find the students' level of trust about the news that they read on social media, and the security measures that are implemented on their social media applications. This study also aimed to find the perceptions that students have on the concepts of fake news diffusion on social media platforms.

1.4. Research problem

After constant consumption of fake news, people gradually believe them. Once an individual becomes convinced with fake news, it becomes virtually impossible to reverse their perspective. Literature has revealed that people will still hold to their beliefs about fake news even when presented with strong facts that contradict the fake news (Parry, 2017). The presentation of contradictory facts can go to an extent that creates an effect called backfire effect. The backfire effect simply implies that people become even more convinced of their beliefs than they were before (Uscinski, 2017). Literature has also depicted that even if a media channel has a reputation of reporting fake news, people will continue to acquire news from it and believe its claims due to the human spontaneous decision-making system. Humans make irrational decisions just because they do not take time to think properly. A lot of people are still struggling with logical reasoning. They trust everything they read just because it is in conformity with their prior beliefs or they just do not want to challenge themselves by taking time to think more about what they are reading (Kumbhar, 2017).

False information is broadcasted with the aim of creating a significant amount of confusing facts, which are always in line with the obvious ("Faked Out," 2017). Results from a study by the Stanford History Education Group have shown that students are developing an inability to differentiate between paid advertisements from real news reporting. They also have a tendency of overlooking clear evidence about the bias claims they acquire on social media (Banks, 2017). The accessibility to social media becoming cheaper, as well as the fact that most of young adults are now considering social media as their primary news source has increased the consumption of fake news (McGrew et al., 2017b). A huge amount of diffused false information on social media get viral and become credible to the people that consume them due to the fact that they receive many likes, comments and shares. As a consequence, they are likely to appear on users' pages more than once (Olson, 2017). Nyangeni, du Rand, and van Rooyen (2015) stated that social media is growing fast and has been the main channel of communication in South Africa, especially for students. Kumbhar (2017) further states that the more people or sites a user follows, the more information they are exposed to and the more likely they are to interact with fake news.

However, it is uncertain as to what extent students in South Africa (SA) are conscious of the amount of fake news being diffused on social media platforms, as well as the dangers that it presents to them in terms of their education and the development of the country since they hold the future of the country in their hands. To address this uncertainty, the study will aim to find the perception of students in South Africa on using social media as their news source, Facebook and Twitter in particular, bearing in mind that a huge amount of fake news stories are being diffused on social media and that social media has become the primary source of news for the young adults today. This study also investigates the attitudes of students in South Africa with respect to the news that they receive from social media.

1.5. **Research questions**

What are the factors that influence university students in South Africa to perceive social media as a trustworthy source of news source?

- To what extent do students perceive social media as a platform for news acquisition?
- What is the degree to which the university students in South Africa are socially influenced to acquire news from social media?
- To what extent do university students in South Africa understand Social Media security?
 - How aware are students in South Africa of the various security measures that are present on their social media applications?
 - How aware are students in South Africa on the concept of ‘social bots’ that are being used to manipulate the news people read on social media?

What are the factors that influence the trust that university students have in the news they acquire from social media?

- To what extent do students in South Africa perceive the news from social media as trustworthy?
- What is the level of investigation that university students in South Africa perform on the news they acquire from social media?

What are the factors that shape the attitude of university students towards the news they acquire from social media?

- What attitudes do students present after reading news from social media?
 - How do students behave after establishing the veracity of the news they acquire from social media?

1.6. **Research objectives**

- To understand the perception that students in South Africa hold on the diffusion of news on social media
 - To discover the level to which they consider social media platforms as a reliable source for news acquisition.
 - To discover the level of trust that students put in the news that they acquire from social media platforms.
- To uncover the behaviour that students in South Africa present towards the news that they acquire from social media
 - To discover the importance that they attribute to the verification of the news that they acquire from social media.
 - To discover their involvement in the propagation of fake news on social media platforms.
- To discover the understanding that students have on the importance of their social media applications' security against malware.
- To provide a list of recommendations from previous studies that will help students to be more sceptical of the news that they get through social media.

1.7. **Significance of the study**

Conducting this study is very significant as the results drawn from this study will be of a great contribution to the body of knowledge. The study will give an insight on the how students in South Africa perceive the acquisition of news from social media platforms, and the trust that they put on the news that they get from social media. In addition, the study will aim to find the attitude that students present after reading news from social media and gave a perspective on the importance that students put on the security of their social media applications. This knowledge could be useful

in advising students and therefore make them aware of their exposure to fake news by considering getting news from social media.

1.8. Methodology

Research Design

This study employed an exploratory research design. There has not be much research done in South Africa on the concept of fake news diffusion on social media. The questions and objectives of this study aimed to find new information that will give an insight on how students perceive the diffusion of news on social media.

Research approach

This study employed a quantitative research approach. According to Barnham (2015) quantitative research aims to establish a representation of the respondent thoughts. It creates a copy of reality and then tries to find out whether that representation is true or not.

Data collection methods

The data collection instruments that were used in this study were questionnaires.

Study site

The study was conducted on the Pietermaritzburg campus of the University of KwaZulu-Natal.

Target population

This study population were university students in South Africa. However, due to the large population of students, the sampling frame was chosen as students from the University of KwaZulu-Natal, Pietermaritzburg campus (UKZN PMB). UKZN PMB has approximately 9,741 students. According to the table by Krejcie and Morgan (1970) , the sample size for this study was of 370 students.

Sampling

A non-probability convenience sampling method was adopted. The respondents to this study were selected according to their availability. The researcher handed questionnaires to students after their various classes and practical sessions.

Data analysis

The collected data was analyzed using SPSS. The reliability was tested using the Cronbach Alpha statistic.

Ethical considerations

The standard UKZN ethical process is required to be followed before any fieldwork can be done and that was applied in this study. A consent was required from the respondents, by filling a consent form, before the filling of the questionnaire could start.

1.9. Limitations

The major limitations of this study were time, scope and funding. Given more time, this research could have adopted a mixed research approach, which combines both qualitative and quantitative approaches, instead of using only quantitative approach. Another limitation was the fact that the researcher was unable to use the students from the Durban University of Technology (DUT) in the study. The researcher was unable to get the gatekeeper's letter needed in the application of ethical clearance. The gatekeeper's letter represents the permission to use units from a given organization in the study. Due to the lack in funding for this study, the researcher was unable to extend the study to all five campuses of the University of KwaZulu Natal (UKZN). This would require much travelling from the researcher to all the campuses.

1.10. Overview of the dissertation

This dissertation has six chapters. There were arranged according to the order in which the study was carried out. Below is a brief explanation of the chapters.

Chapter One introduces the study. This chapter presents a brief background on the problem of fake news propagation on social media platforms. The chapter also presents the reason why the study

was conducted, as well as the investigated research problem. Other elements stated in this chapter are the objectives of the study and the methodology used to achieve those objectives.

Chapter Two presents the review of literature that has been carried out on the concept of fake news. The review consists of various studies that are related to the history of fake news, its spread before and during the internet era, and during the current era of social media. The review also describe the factors that make fake news unrecognizable to its readers as well as some techniques that can help to discover fake news. Lastly, the chapter presents some of the measures that social media companies have started to implement to reduce and maybe stop the diffusion of fake news on their platforms.

Chapter Three describes the employed research methodology. The chapter gives an explanation of the type of research design, research approach, sampling method and the data collection techniques that were used in this study. The reasons why the researcher chose these designs and techniques are stated in this chapter. The chapter concludes by explaining the conceptual framework that was used to shape the study.

Chapter Four gives a representation of the results of the data analyses carried out, as well as their interpretations.

Chapter Five contains the discussion of the results.

Chapter Six gives the conclusions drawn, as well as the recommendations for future research that might be conducted in relation with the security of social media applications.

1.11. Conclusion

This chapter has given a brief introduction to the issue of fake news spread on social media. It has also given a brief background on the concept of fake news and how it is impacting the world of news broadcast. The rationale motivating this study along with the research problem identified were also explained in this chapter. Furthermore, this chapter covered the research questions used in this study, as well as the objectives to be achieved. The research methodology was briefly described. The next chapter presents a review of the literatures that are relevant to this study.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Fake news propagation is an ethical issue and it has been one of the challenges of the media for the past decade. It violates the privacy, trust, fundamental human rights, safety and security of the victims. It also creates an opportunity to manipulate, discriminate, to create inequality, racism, violence, and a lot more (Burkhardt, 2017). Luciano Floridi, who is a professor of Philosophy and ethics of Information at the University of Oxford, according to McGrew et al. (2017b), stated that the world is now going through what he calls a ‘post-truth crisis’. Post-truth crisis, as he explains, is the hunger for stories that sounds like the truth even though they are not true as long as they are pleasing to the consumers. The problem then resides in the fact that this crisis is fed with the internet, particularly social media.

The review of the literature on the evolution of fake news is presented in this chapter. The chapter also presents the review on fake news prior to internet, fake news during the internet era and in the current era of social media. The chapter also presents the challenges that people face in identifying fake news, but also various ways that can help people to uncover fake news. The different measures that social media companies are taking against the spread of fake news are also presented in this chapter.

2.2. The evolution of fake news

2.2.1. The history of fake news

False information has been used by governments as a tool to promote the propaganda that was used to manipulate the general public’s opinion (Reid & Gibson, 2014). In fact, hundreds of years ago, in the US, a number of the very first newspaper publishers created controversial stories so that more copies could be sold, but also to create controversy between different political groups (Howard, Kollanyi, Bradshaw, & Neudert, 2018). It was only in the 20th century that the accuracy of stories became the main focus of the news diffusion industry. However, instead of using more reliable news outlets, people have turned to their social media platforms to get information. Unfortunately, the news found on social media platforms is not always reliable due to the fact that

these news are either from biased sources that fabricate stories or are recklessly published unchecked news (Banks, 2017).

Fake news is the new term that is being used to designate a certain kind of false information. It has been defined by Reid and Gibson (2014) and Allcott and Gentzkow (2017) as being a statement or declaration that is knowingly false or made with reckless disregard for its truth or falsity. However not all false information can be called fake news. According to Allcott and Gentzkow (2017), fake news has got cousins. In other words, other types of false information that are not fake news but very close to fake news. They are the following: 1) Reporting mistakes that are unintentional. 2) Gossips whose origins cannot be found. 3) Theories of conspiracy. Their veracity is hard to verify, but they come from people who believe that they are true. 4) Mockery that is not likely to be misunderstood as truthful. 5) Made up statement by politicians. 6) Misleading reports that not false but do not expose the whole truth.

2.2.2. Internet and fake news

The fact that the internet provides anonymity has given anyone owning a laptop the ability to launch a site and make it look authentic. This includes anyone with the intent to cause harm to a political party, a candidate, or a blogger. It can also be someone trying to generate income from paid adverts that appear on their fake news sites (Staffers & Hackett, 2017). According to Himma-Kadakas (2017), fake news is created either by people or generated by algorithms. However, whether it is created by a person or an algorithm, fake news aims to generate financial interest, and that is the reason why it spreads successfully on social media.

In the era of printed media, readers were told that just because something is written in the newspaper, it does not make it accurate. And nowadays, readers should be warned about what they read on the internet. These days, fake news is created for the same reasons that it was created in the past. The economic incentives of the twenty-first century have motivated people to increase even more the production of fake news. Governments no longer fund the internet, it is now funded by advertisers (Klein & Wueller, 2017). Advertisers are in business to reach as many people as possible so that their products can be known. They pay websites owners to allow the appearance of their advertising material on their pages. With the aid of computing power, it is possible to count the number of visits a website receives. The more visits a website has the more attracted are

advertisers to it. The higher the number of people exposed to the product advertisers want to sell, the higher the possibility to make more sales (Staffers & Hackett, 2017).

The fees that owners of websites receive from adverts published on their pages motivate them to fabricate more content to attract more people to visit their sites, hence an increase in the creation of alarming claims. Research shows that there is a higher chance for people to be interested in reading and later remember negative headlines even after it has been flagged as suspect by a fact checker. For this reason, a good number of websites have been created over the past several years (Burkhardt, 2017). Advertisers only have interest in the number of times people visit these sites and not in the accuracy of the news they publish. Unfortunately, these types of sites are very popular. Some advertisers will take initiative of paying the writers of these websites without much care for the accuracy of the content that they produce. This is how funds are generated from fake news on the internet (Schäfer, Evert, & Heinrich, 2017).

The technological advancement has played a significant role in the increase of the diffusion of information and its consumption. This has a benefit because news can be accessed instantly. The dissemination of news allows ideas to be shared and the inaccessible regions to be reached. However, the internet is an unregulated place governed by adverts (Burkhardt, 2017). The focus is more on generating funds than in producing accurate stories. This then leading to the increase in the production of untrue information. Even though fake news is not a new concept, it has been enhanced by technology and its spread has increased like never before. Fake news as well as real news exist on the internet, but the challenge resides in the fact that they are hard to differentiate (Nigam, Dambanemuya, Joshi, & Chawla, 2017).

2.2.3. Social media and fake news

Social media, particularly Facebook and Twitter, has contributed majorly in the circulation of online news and acquisition. Social media simplifies and facilitates the sharing of news; considering its convenience and tools that are easy to use when posting content for individuals or even for media organizations. One example of how this is achieved is by the use of buttons whose functions are to share news that is on a news site, or by reposting the links that direct to the news that is on a fan page on Facebook or a twitter feed of a friend. These referrals are important to online news sites. They increase their web traffic as well as their article views but most importantly

their economic success. In the US all newspapers that have an average circulation of 100,000 copies in a day, use social media to add the distribution of their online content (Kümpel, Karnowski, & Keyling, 2015).

Social media has grown rapidly in recent years and is now becoming the main channel of communication, especially for young adults. This is due to its convenience and cost effectiveness. Social media is convenient because users can communicate with others with no limitation (Nyangeni et al., 2015). However, social media is no longer being used just for communication or sharing pictures and updates of status, it is now considered as a form of a news source. Nowadays social media is more favored as news source as opposed to reading newspapers or watching the news channels (Alvarez, 2016). Research shows that social media plays an important role in the flow of ideas about political events (Woolley & Howard, 2017). Reports from a study by the Pew Research Center indicated that 62 percent of adults are getting news from social media (Banks, 2017), which is an increase from the 49 percent reported in 2012. Furthermore, in 2016, it was reported that 40 percent of young adults in the USA were getting news from social media, mostly Facebook (Burkhardt, 2017). The above mentioned shows how consumption of news has changed in just a few years (Alvarez, 2016). Below is a graph that shows the sources that young in America were considering getting news from in 2017.

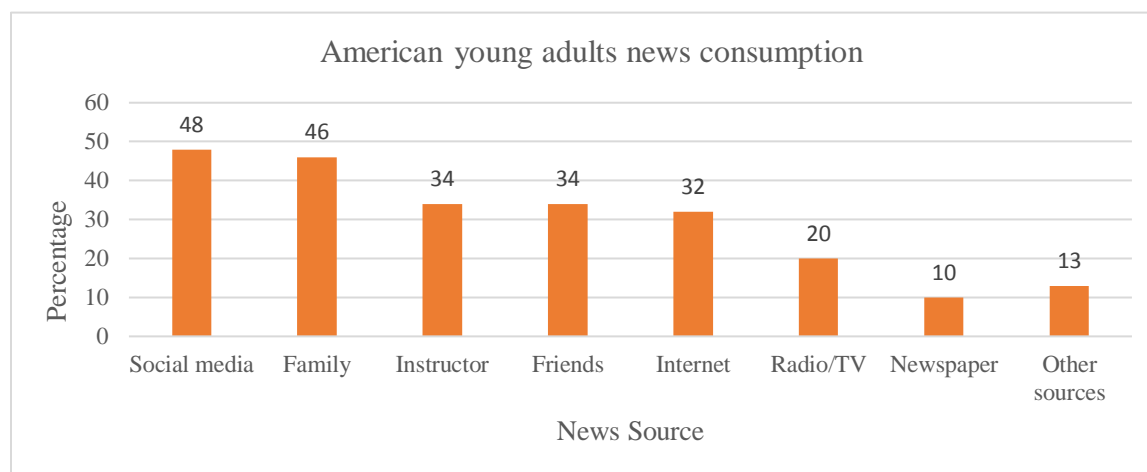


Figure 2. 1: The consumption of news by young adults in America (Batchelor, 2018).

According to Chen (2017), an individual subscribed to a social media platform is likely to have witnessed fake news headlines. Social media, in particular Facebook and Twitter, exposes some people to news that they could not have seen otherwise (Kümpel et al., 2015).

Social media platforms are groups of applications that are internet based and developed from the technological and ideological foundations of Web 2.0. They allow users to create, generate and exchange content. They play a huge role in the manipulation of populations using fake news (Woolley & Howard, 2017). At the Oxford Internet Institute (OII), a research was done for three months about social media activities in the United States. This was right before Donald Trump's January 2018 State of Union Address. The result showed that on Twitter, there is a network of people, supporting president Trump, who have been circulating junk news, and the junk news that they circulate is larger than that of all other political groups combined (Neudert, 2018). In this case, junk news is defined as incorrect information about politics, economics or culture. It gives the impression to be true and its purpose is to cloud the judgment of its readers. It includes conspiratorial materials, extremists' and sensationalists' content, and fake news.

Social media platforms, Facebook for example, are structured differently from traditional media technologies. News can be shared among readers without any third party editorial judgement or fact checking. A person with no reputation has the ability to compete in terms of the number of readers against CNN, New York Times and Fox News (Allcott & Gentzkow, 2017). A huge amount of fake news and other forms of false information have been distributed on social media platforms during sensitive periods of public life. However, most social media platforms hide the actual amount of fake news that has been shared and the impact that it has on the readers. It was found by previous research that social media users favor shocking information regardless of its credibility or its source (Howard, Bradshaw, Kollanyi, & Bolsolver, 2017; Howard et al., 2018).

Fake news sites diffuse news that are misleading, untrue, and with the purpose to act as real news. This is done so that there can be economic, political or cultural gain generated. The role of social media in the circulation of the information about politics is major (Howard et al., 2018). Most of the times, fake news sites rely on social media to attract users who will engage with them. Nowadays, the concern is not only the media outlets that are propagating fake news but also the automated algorithms called bots. They help fake news to go viral on social media before fact

checkers can uncover them (Shuster & McDonald-gibson, 2017). Governments and political personalities all over the world, use people and social media bots to shape the public life. Fake news and social media bots have a goal to influence the conversations happening in public life, to demobilize opposition but also generate false support (Howard et al., 2018).

2.2.4. Social media security

2.2.4.1. Social Bots

Social bots are automated scripts that generate information using social media platforms and then create a communication with users (Forelle, Howard, Monroy-Hernández, & Savage, 2015). They are pieces of software with the intention to perform repeatedly robotic tasks (Howard et al., 2018). According to Woolley and Howard (2017), they are used to improve virtually the capacity of humans to get more work done online. Woolley and Howard (2017) proceed in defining social bots and say that they are accounts with automated identities. They have the capability to perform mundane tasks such as collecting information and communicating with people as well as systems, all while acting like real people.

According to Burkhardt (2017), Grimme, Preuss, Adam, and Trautmann (2017), Stukal, Sanovich, Bonneau, and Tucker (2017), and Woolley and Howard (2017) there are various types of social bots:

- Chat bots: they are the most popular type of social bots. They are software systems that can have conversations with human users in a natural language, like for instance English. They find their origin in the Loebner Prize Competition, where the challenge was to find the program that act most like humans. However, these software systems' intelligence is limited to their scripts. They are developed to act in specific topics.
- Spam bots: while chat bots focus on one to one communications, spam bots focus on one to many communications. Spam bots are created to reach many people at once. Their goal is to diffuse information, adverts, fishing links, or spam malware. They are used by companies, groups of people or individuals.
- Political bots are basically social bots that are used by political groups to manipulate people. They can, in addition, possess characteristics of chats and spam bots. The human like political bots that act on Twitter and Facebook have the potential to influence other

users. Especially if they are working in a network with other bots. It was found that during the 2016 US elections, 19% of the posts related to the elections on Twitter were sent by social bots.

- Mobile phone assistants: for example, Siri from Apple phones. They were developed to manage human to machine conversations using natural languages as input and output. They make it possible for almost any functionality of the mobile to be used with just voice commands. They translate human languages to the mobile phone with the support of keywords identifications, voice recognition, and voice synthesis.

According to Grimme et al. (2017) there exist other bots that are not considered to be social bots:

- Content management bots, otherwise known as curator bots. Content management bots collect information and present it to humans in an easy to digest manner. They are different from social bots in a way that they do not communicate with humans. An example of this type of bots is Wikipedia bots. They help users with the presentation of articles. They delete unnecessary whitespaces, generate links related to the articles and correct typos.
- Games bots: they assist their users in being successful in computer games. Their tasks vary according to the game they are being used in. Game bots can be used as opponents to help navigate the game as well as to train their users. Contrary to social bots, game bots do not focus on interacting with humans but on exclusively substituting users by imitation.
- Service Level Agreement (SLA) negotiators: these bots focus on the communication between machines. They are developed to handle service level agreements autonomously. There is no human communication involved with this type of bots, which makes them different from social bots.

An individual or a small number of people can deploy an army of bots on twitter to create an impression of a huge scale consensus. On social media, bots are used to deliver news, real news but also fake news. They perform activities like hate speech, spamming and harassment, which are malicious activities. They can also duplicate themselves, send messages and act like real people. Bots are simply a malign way of distributing fake news over the social media pages of users' followers (Howard et al., 2018).

According to Burkhardt (2017), bots are programmed algorithms used to search for information on the internet that is similar to what a social media user has already interacted with, in other words information that the user has clicked on, liked or shared. Bots will then inject the information found into what appears on the user's home page. So, instead of seeing a variety of news headlines, the bots will find headlines similar to what a user has already interacted with (Burkhardt, 2017). Using the following links between accounts, bots can also send the information to the friends of a user, but only chose to send the headlines that are related to what the friends have interacted with. There are two types of bots: legitimate and malicious bots. Legitimate bots generate a large number of tweets that deliver news and update feeds. Malicious bots deliver appealing information containing links directing to malicious content (Forelle et al., 2015).

Bots are also called botnets, which derives from the words robot and network. They describe a set of programs, which are in communication through several devices and their purpose is to perform a given task (Burkhardt, 2017). The task performed by bots can be simple, for example the generation of spam, or it can be aggressive and malicious, for example launching denial of service attacks. Bots are not developed to perform only political tasks. Some of them are developed just for fun or for support to criminal enterprises, but all bots have the following properties as a common trend, the abilities to deploy messages and to replicate themselves. Some of the other reasons behind the creation of botnets are the following: DDoS attacks (Distributed Denial Of Service attacks), theft of confidential information, cyber sabotage, cyber warfare and click fraud (Stukal et al., 2017). Governments around the world have been emphasizing on increasing the strength of their cyberwarfare capabilities to defend themselves but also for offence when needed. In addition, political actors and governments all over the world have been using bots to manipulate the opinion of the public (Howard, Bolsover, Kollanyi, Bradshaw, & Neudert, 2017).

Social bots are dominant particularly on twitter. They generate tweet information of their own accord. Most of the times, they have profiles lacking in basic account information, for example name or a display picture. Those accounts are called 'twitter eggs' since the default display picture on twitter is an egg (Burkhardt, 2017). Bots are of a versatile nature; their production is cheap, and they are forever evolving. They are located on cloud servers that are never switched off; they grow fast by the day. They have become the primary applications used to perform denial of service and virus attacks, and to collect emails and steal information (Forelle et al., 2015).

2.2.4.2. Bots and botnets detection

Bots and botnets are implanted to perform specific tasks, and after the completion of that task, their accounts are destroyed. Detecting them before they can finish their task is important so that they can be shut down. Unfortunately, the means for bots' detection and shut down are still in their primary stage of development. There is a multitude of accounts driven by bots but not enough means to eliminate them (Burkhardt, 2017).

According to Burkhardt (2017) and Stukal et al. (2017) the following elements are the areas where bots infiltrate social media:

- Social media users create profiles that serve as their identity on social media. Programming bots that can act as ghost profiles and whose purpose is to provide false information is easy. Adding to this is the fact that other social media users' profiles can be accessed, makes it easier to target a specific set of people.
- Most of the time, people tend to trust information that have been repeated by multiple sources. Social media users do not have much options, and that makes it easier for bots to pass for real people. On Twitter, it is not hard to imitate a human; the texts are not long, and grammar is not taken seriously. The concept of 'popularity scores' is a problem (popularity scores are basically measures of how popular people are on Twitter). Making them private, optional or even absent can increase the resistance of users to bots' attacks.
- Popularity is important on social media and it is achieved by having many followers. This can lead to users accepting requests of friendship to unknown individuals. Social bots send requests to many users, accumulate a huge following and then become significant in their friend groups.
- The influence of a topic on social media is boosted by the number of emoticons and likes that it receives. The collection of emoticons and likes is used by bots to spread stories to other sets of users. This has an influence on the topics that trend on twitter, and it creates an impression that people are interested in certain topics, moving the attention away from other topics.

2.2.4.3. Measures against bots

It is not impossible to avoid bots and people should make it a priority to do so before pressing the accept button to friend requests. Referring to Burkhardt (2017) the following are some of the things that people should consider to protect themselves against bots:

- There are accounts that lack in profile picture, or might have confusing or misspelled usernames or have a small number of tweets or shares, but their following is larger than the number of people who follow them. These types of accounts are likely to be bots. If an account always replies to tweets within a few seconds after they are posted, that account is likely to be automatically programmed. These are some of the signs to be considered before friend requests can be accepted.
- The use of a variety of hashtags and changing them regularly instead of relying on a single hashtag, can keep bots from disrupting those posts.
- If an account gets a huge number of followers overnight, it is possible that there are bots involved. It is important for people to check the number of followers that their new friends have.
- The people who possess the skills to build bots can build bots that can be used to counteract the effect of bad bots.
- If an account is suspected to be a social bot, it should be reported. People can then learn how to report suspected accounts. There are some links provided by social media to allow users to report exploitation and propaganda.

2.3. Students and Fake News

Young people's lives are dominated by the internet. According to S. McGrew, T. Ortega, J. Breakstone, and S. Wineburg (2017a), young adults spend an average of 9 hours online and students have a high chance of learning about the world through their social media platforms than through traditional media sources. It is important that students know how to make a difference between false and true information from the flashy contents that appear on their screens. From a study conducted at the Stanford History Education Group, it was demonstrated that students have a hard time making a difference between real news and fabricated news (Staffers & Hackett, 2017). The study included students from middle school, high school and college students from 12 states of the United States of America. These students were presented information from articles, tweets

and comments. A total of 7804 responses was collected (McGrew et al., 2017a). Domonoske (2016) stated that a shocking observation was made by the researchers, of the failure that students presented to distinguish real news from false news and how consistent the responses were.

The majority of middle school students (80%) believed that sponsored contents were real news. The researchers said that many people assume that because young people spend a large amount of their time on social media, they might have more knowledge on what they find there, but this was contradicted by the results they got from their study. Another observation made by the researchers was that an “about” section of a web page, if well-presented and polished, was able to persuade the students that the site was legitimate and they would tend to naïvely believe the content without any supporting evidence (Domonoske, 2016).

Many of the high school students were unable to differentiate real from fake news on Facebook. Two posts about the announcement of Donald Trump candidacy for president were presented to the students. One post was from the Fox News account and it had a blue checkmark to indicate that it was verified. The other post was from an account that looked similar to Fox News, but was a fake account. Only 25% of the students recognized and explained the meaning of the blue checkmark. More than 30% of the students claimed that the fake account was more truthful (Wineburg & McGrew, 2016).

A link to a tweet from a source called MoveOn about gun owners’ feelings on background checks was sent to undergraduate students. They were asked to evaluate the tweet and state the reason why it might or might not be a decent data source. Few students noticed that it was based on a poll done by a professional polling firm, therefore increasing its chance of being a decent source. Less than a third of the students mentioned that the source had political agenda behind the tweet, and that is reason enough to consider the source as unreliable. More than half of the students did not consider checking the links contained in the tweet before they could evaluate the worth of the data (McGrew et al., 2017a).

At Stanford, undergraduate students were asked to evaluate articles from two organizations’ sites. One organization is the American Academy of Pediatrics (AAP), which publishes the journal *Pediatrics*, has a following of 65,000 members and started in 1930. The other organization is the American College of Pediatricians (ACPed). It separated from AAP in 2002, is against the parenting of same-sex couples and claims that homosexuality has a link with pedophilia. The

Southern Poverty Law Center has classified it as a hate group and its following include 200 members. The students spent up to 10 minutes to evaluate the articles from the two organizations and were not restricted to access anything they wished online. The results from this exercise showed that more than half of the students came to a conclusion that the article from ACPeds was more trustworthy. And the students who preferred the article from AAP, were unable to find the difference between the two organizations (Domonoske, 2016; McGrew et al., 2017b).

2.3.1. Strategies to news consumption

According to McGrew et al. (2017a), schools have not yet understood the way information is influencing students on a daily basis. Some schools have got filters that direct students to valid sources. Unfortunately, this does not help students to learn how to evaluate news sources for themselves. Students should be taught how to read news online like facts checkers.

The following are according to McGrew et al. (2017a), Wineburg and McGrew (2016) and Domonoske (2016) some of the powerful strategies employed by facts checkers that educators can adapt to help students become knowledgeable web users.

- Reading laterally

Students approach web pages with a checklist-like behavior. In other words, when reading news, students scan web pages from top to bottom, commenting on the page's design and logos, and examining the references at the bottom of a web article. They spend time reading the article, evaluating the logic of its content and how it fits with what they already know. Unfortunately, since all of this is done without knowing how reliable the source is, all the efforts made result in a complete waste of time. Unfamiliar content are approached by facts checkers differently. Facts checkers read laterally. They jump from unfamiliar sites almost instantly, to investigate outside of the site and learn more about the site. They establish the reliability of the site before they can consider getting news from it.

- Making smart selections from search results

In an open search, the first site clicked matters. The first choice clicked can direct to other links, which might be the only source consulted if in a hurry. Fact checkers also rely on google. But contrarily to the belief that the more reliable results are ranked higher, they understood that results from google can be gamed. They take time to scrutinize the search results' URL and snippets (the

brief message that accompanies each result). They scroll down to the bottom of the results page and can even go to the second and third pages before they can click on any result.

- **Using Wikipedia wisely**

Students have been told by educators to avoid using Wikipedia. Wikipedia was the fact checkers' first stop. Instead of telling students what fact checkers found about Wikipedia, it is more suitable for them to learn on their own about Wikipedia's standard of verifiability and learn how to gather entries for links to reliable sources. They should investigate the 'Talk' (the hiding tab next to the 'Article' tab on Wikipedia) pages of sensitive issues, and learn to make Wikipedia a resource for lateral reading. Sometimes fact checkers skip the main article and go straight to the references, which might be more established and reliable.

One popular approach that is used to teach students the evaluation of online information is to expose them to hoax websites (websites that contain deceiving news). This is done to show students that they can be tricked easily and from that learn to be more knowledgeable news consumers. However, hoaxes are just a small part of what exist on the internet and the digital literacy cannot only be limited to hoaxes because credibility is not established by an either-or decision.

2.4. Detection of fake news

The combination of today's online journalism with the decrease in the readers' skepticism has allowed the uncontrollable spread of fake news (Himma-Kadakas, 2017). It is unsure of how often an individual falls for fake news but there are just many occasions of exposure (Borel, 2018). According to Silverman and Singer-Vine (2016), in America, adults are convinced by fake news headlines 75 percent of the time. In 2016, the Pew Research Center stated that more than two-thirds of adults in America used social media, where there is abundance of fake news, to get their news. In December 2016, a research from Dartmouth College, Princeton University and the University of Exeter stated that one in four people in America accessed a fake news site, and the majority of times through Facebook (Borel, 2018). A study found that, in Germany, 59% of the people stated that they have seen fake news online (Shuster & McDonald-gibson, 2017). According to Silverman and Singer-Vine (2016) people who consider Facebook as their major

source of news have more chances of viewing fake news headlines as being accurate contrarily to those who do not rely much on the platform for news.

Knowing the reason why people fall for fake news can help avoid it. A part of the problem resides in the fact that fake news is hard to spot (Staffers & Hackett, 2017). The very first fake news that was published on social media was not hard to spot and it was done as a way of entertaining the public. The key indicators were the language used in the articles, along with the font and the links (Crate, 2017). The results obtained by BBC from social media users in Kenya and Nigeria show that people are fooled with fake news because they overestimate their ability to spot it. Researchers also found that many people understand the consequences of sharing fake news, but their understanding is only abstract. An interviewee, in Nigeria, mentioned that after being touched by the interesting news they read, they feel obligated to share it so that their friends can also read it. The researchers discovered that Kenya and Nigeria have a lower level of media literacy, particularly in rural areas where Facebook is regarded as the synonym of the internet and everything on it being trustworthy (Overs, 2018).

The fact that news can spread virally on different channels on the internet undermines the process that used to take place by professional journalists to verify the credibility and source of information before public dissemination (Schiefer, 2017). Most of the news on fake news sites are not real, but some of them contain partial truths which makes falsehoods harder to identify (Stoffers, 2017). Fake news sites have names and designs that look professional and they are increasing day by day. Those sites have already started to play a significant role in the big events that are happening in the world (Stoffers, 2017). President Obama, according to Burkhardt (2017), gave his take on the issue of fake news. He goes on to saying that if facts are not taken seriously and if serious arguments cannot be differentiated from propaganda, then that is a serious problem not to be taken lightly. If everything seems to be similar and people cannot make a difference, there is no clue on what to protect or to fight for and a lot can be lost of what has taken years of hard work to build.

Fake news sites are weakening readers' ability to distinguish between fact and fiction. In the meantime, companies like Facebook, Google and other social media companies are having a hard time on how to come up with a solution for fake news. Some people expects social media companies to suddenly return the authority of news diffusion to the traditional media. The CEO of Facebook, Mark Zuckerberg, made an announcement stating that their company is in the search

for ways that can allow readers to detect and report fake news. He also said that Facebook is still a platform that allow people to share what they want and whenever they want (Stoffers, 2017). According to Bowman (2017) these elections showed one thing for sure, the traditional media can no longer make declarations about the credibility of things and Facebook, he says, has created a platform for fake news. However, Bowman (2017) proceeds by saying that even if social media companies, like Facebook, wanted to return authority to the traditional media, they cannot because the authority was lost long ago due to the media's partisanship over the years and also due to the unreliable media that existed before. According to Burkhardt (2017), publishers should take note that the public want accurate and truthful news. Newspapers will always remain the important and most powerful news source and they are the solution to the problem called fake news.

There exists a concept called "confirmation bias". It is explained as being the inability to be opened to evidence that goes against something that is already known to be true. When people realize that the information they possess is valid, it becomes possible for them to ignore inconsistent information to avoid the stress of having inconsistent thoughts while the information that they hold fits well in the world view (Reid & Gibson, 2014). It has been found that people spend most of their time online in what is called "echo chambers". Echo chambers are basically environments where everyone shares the same beliefs. They shield people from contracting ideas that go against their beliefs, making it easier for fake news creators to target them if their belief aligns with the fake news they have created. According to Crate (2017), the targets of fake news creators are groups of people whose beliefs are aligned with their news.

The simplest reason why people fall for fake news according to Reid and Gibson (2014), is that they are more interesting than real news. In addition, the way social media feeds change constantly makes it even harder for the truth to stand out.

2.4.1. Ways to detect fake news

Research has been done on how well people can identify lies and it has been discovered that people can identify lies in writing just a little bit better than they can identify it randomly. In other words, if a social media user gets delivered fake news by bots, that user has slightly better than fifty percent chance of detecting that the news is not true. To increase the probability of detecting fake

news, computer experts have been trying to come up with a set of methods that will improve the automatic computerized recognition of fake news (Burkhardt, 2017).

Eva and Shea (2018) and Crate (2017) give a few suggestions on how to spot fake news and fake news sites:

- Check the source: domain names that look strange or web pages that end with the strange syllables, for example Newslo, are signs that can help the readers to be cautious about the news they are reading. Most of the time news sites have supporting sources. Readers should click on the supporting sources provided to see if they are talking about the same thing. If not, then the page might contain fake news.
- When reading online news, it is necessary to learn more about who the author of the news is and who the sponsors might be. Sponsors have an influence on the news that is being presented.
- Fake news pages usually use web addresses that make them look like real sites, but they sometimes end in strange manners like for example ‘.com. co’. It is very important to check the URL.
- There are visual clues that can help to spot fake news. A sloppy design might be used for fake news sites or even an overuse of all caps.
- If a story seems to be too alarming that it makes the readers angry, there is need to consult other news pages or simply to perform fact check using various fact checking pages available on the internet.
- People need to read beyond headlines before they can think of sharing stories. Headlines can be outrageous in the quest for clicks. Readers need to get the whole story. According to Burkhardt (2017), one of the reasons why fake news goes viral is because people share news without reading beyond the headlines, without thinking about the content of the message. Headlines are designed to capture the attention of the readers and they are usually written to incite strong reactions.
- People also need to make use of their browsers. An installation of a browser plugin to help flag fake news might be of great help in the task of spotting fake news.
- Another tip is to consider the time and place where the news was published.

There is a unique set of problems that come along with detecting lies from written text. On one hand, structured text, with an example of insurance claim forms, use known and limited language. On the other hand, unstructured text, like text found on websites, use unlimited language, which can be used in many contexts. This presents a problem when searching for methods to automate the detection of fake news. There have been two approaches that have been used in the detection false news for unstructured text: Linguistic approach and network approach (Burkhardt, 2017).

2.4.1.1. Linguistic approach

There are four types of linguistic approaches that are being tested by researchers (Burkhardt, 2017):

- The bag of words approach

In this approach, words contained in a sentence or a paragraph or an article are of the same importance, and they are treated like separate units. The number of times a word or a set of words appear is registered and analyzed. Part of speech, location-based words, and count of pronouns, conjunctions and negative emotion words are all taken into consideration. This type of analysis can indicate the pattern of the use of words, which can then reveal the truthfulness of the information. Personal pronouns and verbs are more often used by deceptive writers, when truthful writers have a tendency of using more prepositions, nouns and adjectives.

- The Deep syntax approach

In this approach, the language structure gets tested. A set of rules is used to rewrite sentences so that their syntax structure can be described. The syntax structures are then compared to known syntax patterns of lies to determine the veracity of the story.

- The semantic analysis approach

In this approach, information written by an author about an event is compared to what other authors wrote about the same event. A compatibility score is then drawn from the comparison to show the degree of falsehood.

- Rhetorical structure

The relationship between linguistic elements of a text are shown by the analytic framework. That relationship can be represented on a graph or on a vector space modelling (VSM) to show how far from the truth they fall.

2.4.1.2. Network approach

Words or phrases indicating deception are identified by human classifiers, then compiled in a database. A database of known facts from reliable sources is also created. Linking these two databases, new information can then be compared to the already classified knowledge to establish the level of disagreement between facts. Using multiple reference points, the behavior of social network can help the owners of social media platforms to identify fake news. The location coordination of messages can indicate the personal understanding of a given event. The verification of who the author is can be done using the internet metadata. The exclusion or inclusion of hyperlinks can demonstrate the trustworthiness of news sources. TweetCred, is an example (Burkhardt, 2017). According to Meier (2015) TweetCred is a software and a browser plugin. It assigns a credibility score to tweets in real time, taking in consideration the content of the tweet, the characteristics of the author and the external URLs. The appearance of images, their number, and their relationships and importance to the content of the tweet can also be compared with known standards to indicate the veracity of the message. It is ironic that this can be achieved using bots.

2.5. Ways to stop the spread of fake news

2.5.1. Fact check

There are several sites whose duty is to fact check. These sites make it their priority to find the truthiness of stories, captions or headlines. People should adopt a habit of consulting fact checking sites and see what they say about a story before they can share it. Here is a list of some fact checking sites: Snopes, PolitiFact, Hoax-Slayer, StopFake, FactCheck, Factmata, LazyTruth, and

SciCheck (Burkhardt, 2017). Facebook and Twitter are making attempts to use fact checking organizations so that they can help them to detect fake news and, maybe, identify bots that are actively spreading fake news on their platforms. If people make it a habit to consult fact checking sites before they can share news between themselves on social media, the spread of fake news can decrease significantly (Batchelor, 2018).

2.5.2. Others measures against Fake News

In November 2018, BBC launched a project, named Beyond Fake News, which is an international initiative to investigate how and why fake news are created and shared. The initiative has been launched in Kenya, Nigeria and India. The project aims to fight back against the fake news that is causing social and political damage around the world. It is mainly focused on the global media literacy, panel debates in Kenya and India, and a number of hackathon events in which various solutions to the issue of fake news can be explored. A number of documentaries and special reports are to be featured on the BBC's international television, radio and online channels. Workshops on media literacy are already being hosted in Kenya and India. Similar workshops are being hosted in some of the schools in the United Kingdoms (Tobitt, 2018). As part of the project, a website named CrossCheck Nigeria has already been launched to fight fake news before the Nigerian elections of February 2019 can take place. This will allow journalists around the country to work together in investigating and debunking rumors, especially the ones circulating on social media. The site will feature completed investigations' reports (Ekpu, 2018).

Facts checkers and some journalists have tried to show facts but have been defeated by the increasingly huge amount of fake news that is out there (Borel, 2018). One simple way to put an end to the spread of fake news is to stop sharing them. The number of times a story get likes, shares and comments influences its positions on the rankings of search engines. And the higher a story is on the search engines' rankings, the more visible it is and the more credible it looks (Banks, 2017). In Germany, there has been a law that imposes Facebook and other social media to pay a fine of 59 million dollars if there is appearance of fake news or any other form of misinformation on their platforms. The European Union opened an office whose responsibility is to expose fake news as well as Russian propaganda. In the Czech Republic, the police have a responsibility to scan social media platforms for fake news and other types of false information (Shuster & McDonald-gibson, 2017). After the American presidential election in 2016, many readers went after social media

companies for them to stop fake news sites from publishing news on their platforms. Some companies, including Facebook and Google, promised to stop them, and they have started to make efforts to remediate the situation (Stoffers, 2017).

The social media platforms and search engines have made efforts to help spot and flag fake news. An immune system has been created by Facebook to prevent bots from infecting it. Google announced that it would increase its regulations of adverts as well as the websites linked to it. Facebook implemented a feature in some parts of Europe called 'Related Articles'. This feature gives readers access to see fact checking results of the original stories. Google Digital News Initiative created programs that would help users to verify news on their own with Factmata. Factmata is a webpage for fact checking that is leveraged by artificial intelligence (Burkhardt, 2017).

One of the first approaches that Facebook took against fake news was to go into the news feed of the users and place warning labels next to the alarming content. The idea being not to delete the content but to make users think more about the news they are reading and sharing, and its source. The next step was to outsource fact checking services from people who can scrutinize through a huge number of articles, rumors and various conspiracy theories to expose the truth (Shuster & McDonald-gibson, 2017). Google appointed 10,000 people to search and point suspicious articles; and to tweak their search algorithm, which is a set of rules that computer programs follow to function. Facebook, then, implemented a tool for fact check but also started to delete accounts that spread fake news (Banks, 2017). There has been a project whose aim is to develop virtual fact checking tools. The budget of the project was of 1.2 million of dollars, of which 200,000 dollars were donated by Facebook. Until now, the tools developed include ClaimBuster; whose purpose is to scan digital news and compare them to known facts stored in a Database (Borel, 2018).

The fight between computer programmers might go on for an indefinite amount of time. On one side, some programmers are developing new ways to manipulate information to mislead and influence people. On the other side, other programmers are looking for ways to counter or at least slow the functioning of the new technologies. And the cycle seems to continue in an endless loop. The use of technology to detect and end the propagation of fake news is a defensive game. There has not been a practical way of eliminating fake news yet. The influence of politics, power and

money gives a motivation to various groups of people to create computer driven means to control the human race (Burkhardt, 2017).

Some people have mentioned how artificial intelligence might be the solution to fake news. It is possible to get the best performance out of artificial intelligence if strict rules are defined. Computers can be taught to play chess, but facts are slippery. The concept of fact check can at least work because news is compared to what is already established to be true, but since there is no artificial algorithmic model for truth, artificial intelligent is not the solution for fake news (Borel, 2018).

It will take efforts from both the public and the media to put an end to this issue of misinformation and to reduce the amount of fake news being shared (Staffers & Hackett, 2017). According to Anthony Adornato, a media professor at Ithaca College in New York, the battle against fake news should be a team work. It should not be the task of social media companies to control what their multiple subscribers are reading and sharing. It should be the responsibility of the public along with the media to come up with a solution for fake news. Social media's users need to denounce people who share fake news and journalists should carry on following the professional standards which are objectivity and accuracy (Stoffers, 2017).

However, at the end of the day, the decision to believe online stories must come from the readers. If news readers could develop critical thinking, ask questions about the news they read, and stay open to new information, even if it might be in contradiction to what they already know, they would not only be able to avoid fake news but also become better news consumers (Banks, 2017).

2.5.3. Recommendations to students about news from social media

Students, in today's world, have never been without their devices, cell phones and computers. They have always been surrounded by technology and are always exposed to information. They adapt to technology easily and are always ready to engage with new gadgets (Domonoske, 2016). They are eager to experiment and easily discard anything that is not entertaining or takes long to complete or not in line with their beliefs. They read news on the surface instead of doing a thorough research on the topic. Research has shown that students tend to rely on their social media friends for information, making them vulnerable to manipulations since bots might be part of their social media following (McGrew et al., 2017a).

Students are exposed to information even when not seeking for it. According to Turcotte et al. (2015), a Pew research study conducted in 2014 showed that almost half of the Facebook users (47%) were consuming news from Facebook, but 78% of them reported that they are exposed to the news while doing other things. This shows that sometimes people are exposed to news on social media involuntarily, even the people who would not consider social media as a news source. They are also exposed to the news by simply using their social media applications. Psychology has proven that people tend to believe the first version of information that they hear or read, and the number of times an individual hears something influences their likelihood to remember it even if it is not true (Burkhardt, 2017). Students should be taught skills that will help them navigate the world of information, as well find the answers to their questions (Burkhardt, 2017).

Teaching students to try to find information about certain subjects from experts in those subjects can help them to avoid fake news. The easy access to information on the internet exposes students to information but does not teach them to evaluate the trustworthiness of the source. Students need to understand that information from an expert source is more reliable than the information coming from an unknown source. They need to be provided with guidelines that they can use to identify and select information produced by experts:

- **Awareness about the psychological process of news**

As the old saying goes: ‘knowledge is power’. If students are aware that they are psychologically programmed to believe the first version of information that they hear, they can learn to insert skepticism into their way of analyzing news. This makes it harder to believe fake news since there will already be an assumption that the news might be fake. It becomes easier to reject the first information knowing that the brain tends to hold to it (Burkhardt, 2017). Explaining to the students the psychological tendencies that can push them to believe fake news and reminding them of those tendencies regularly, can push them to become more cautious of the news they read. Making them aware of the functioning of their brains can improve their performance in the acquisition of news (Banks, 2017).

In higher education institutions, students are usually psychologically open to new ideas. This is a critical stage for their learning and it is important to offer them the instruction and reasoning that will allow them to use their critical thinking skills in their learning environment. Skills that concern fake news can be taught at any time because fake news is a big topic even in the non-academic

world, and students can apply what they have learned in their personal lives. Tutorials, workshops, YouTube videos and games can be created to teach students skills that will help them to identify fake news, and those skills learned can also be applied in academic issues when necessary (Burkhardt, 2017).

Teaching students the skills to apply in the acquisition of news is very important because those are of great help to them during their academic life but also in the working world. Students need to be informed of the importance that the knowledge they acquire in college about information literacy will hold in their future success in the working world. Students also need to understand that they will not always have access to the information that is available to them at university. Once they are in the working world they will only rely on what they have learned (Himma-Kadakas, 2017).

- **Evaluation of information**

Students need to be taught about the credentials of the author of the news their reading and how they can be evaluated. The author's credentials simply are the information that informs the reader of the author's expertise or past work. Academic researchers often use sources that review the authors credentials for them, but those academic sources do not always serve in daily life (Burkhardt, 2017). Most people get their news from social media and the likelihood of them checking that news against academic databases or any other reliable source is low because it can be time consuming. But the instructions on what constitutes an author's credentials, where the evidence of credentials can be found and why it worth the time taken to discover them can be beneficial to students (Allcott & Gentzkow, 2017).

Students should be, in the same way, encouraged to think about favoritism. Everyone has a perspective in which they see the world, and this influences one's interpretation of events. Journalists should aim for objectivity while reporting an event that is controversial, but bias can play a role in reporting the event. Being aware of the point of view of the author can help students to identify biases if present. Students can learn the point of view of the author by reading their biographical information and learning the viewpoint and reputation of the organization that he is working for. Once students are aware of the importance of the author's credentials and how those credentials can inform of the possibility for bias, they can then be informed that anonymous sources are unreliable (Burkhardt, 2017).

- **Information literacy skills and concepts**

Instructors should concentrate on teaching students the various information literacy concepts and skills rather than teaching them how to use a certain tool. Those concepts and skills should be used together with exercises that will allow students to explore various research tools. Instructors can never have enough time to demonstrate on every social media platform. It is more efficient to teach them the functioning of the platforms in general and have them explore on their own and find how the platforms differ from each other. Students have used social media platforms for a long time and they learned how to use them by using a trial and error approach. They should spend time searching content and applying the skills they have learned to the content rather than teaching them how to use a particular platform (Bowman, 2017).

Students are taught to be skeptical about the news they acquire from social media. They should question the veracity of the news they are reading. For them to verify whether the news is fake or real, they should be given tools that can help them to do so. Instead of relying on their social media friends or the popularity of the news, students should be informed of fact checking sites that are available on the internet as well as on the social media pages. Some of the fact checking sites include Snopes (www.snopes.com), PolitiFact (www.politifact.com), and FactCheck (www.factcheck.com). Students should be shown the importance of following up on an article, or link, or citation. An article might appear to be the report of a research experiment with the format of a legitimate research article, but only become suspicious when the biography or reference list is taken into consideration. A biography might contain articles intended to make the article look serious but are not in line with the content of the article. Similarly, fake news articles may contain links and references to articles that are completely unrelated, or articles containing biased content. Students should be encouraged to follow links and citations in the biography to verify if they support the claims in the news they are reading (Borel, 2018).

Today anyone with a computer and access to the internet can create a website and give it a look and feel of a legitimate website. If a website looks legitimate, it can give an impression that its content is also legitimate. It is important to show students that creating a website is easy, and making its URL look like the URLs of legitimate websites is easy. They can then understand how easy it is to create a fake news site. However, it is important to carefully check the domain names of the websites from which news is acquired. Tiny details, like for example replacing the lower-

case letter L with the number 1, can indicate that a site is fake news site or an unreliable source (Brandtzaeg & Folstad, 2017).

Students should be cautious about their privacy on social media platforms. Students are often ready to provide their information on social media when asked before they can perform a given task. Students reveal their information without knowing what happens to it. Though it might seem like a small thing to do, the information supplied by students is sometimes sold to other organizations that use it to create profiles containing private information. This is dangerous because it is done without the knowledge nor permission of the owners of the information. Those profiles created might be social media bots (Calabresi & Miller, 2017).

Literature shows that students spend an average of fifteen seconds on a website, and this might only be enough to read the headline. That is not enough to examine whether the content of the article matches its headline, or to determine who the author might be. Students should be encouraged to take time to evaluate the content of a website before they can think about sharing it with their followers. This way the spread of fake news might decrease and maybe stop (Banks, 2017).

- **Inform the teachers**

Librarians have had knowledge about information literacy for a long time, but teachers have not considered information literacy as a priority. Workshops and instructions on information literacy should be given to teachers and everyone who has an influence on students. This can help them understand the problems that are connected to the issue of fake news. Cooperating with the teachers in all the subjects can help students to strengthen their information literacy skills and avoid fake news in the process (Alvarez, 2016).

2.6. Conclusion

This chapter presents literature on the concept of fake news. It is important to note that the concept of fake news is not new, and the reason why it was spread in the past remains the same as the one of this era. However, with the presence of the internet and the birth of social media, the techniques to the spread of fake news have changed. Nowadays, the spread of fake news has increased, and it is more brutal than it has ever been. Governments all over the world, along with groups of people,

are using bots to help them spread fake news in more intelligent and efficient ways. This chapter further presents the difficulties that people have identifying fake news, and various ways in which they can identify fake news. The chapter concludes with the different measures that social media companies, as well as some governments, are taking to reduce and maybe someday stop the spread of fake news. The next chapter presents the research methodology that was put in use to achieve the objectives of this study.

CHAPTER THREE: RESEARCH METHODOLOGY

2.7. Introduction

The previous chapter gave a presentation of the literature on the concept of fake news, its history and its impact on people, particularly students, through the internet and social media. The chapter also presented a number of measures that are being implemented to reduce the spread of fake news. This chapter presents the methodology that was followed to conduct this study. The chapter also presents the research design and approach that were used, as well as how the selection of the target population was done. Furthermore, the sampling process is also presented in this chapter, along with the way the data collection was conducted. The conceptual framework that was used to frame this study is also presented in this chapter.

2.8. Research design

The exploratory research design that was followed in this study. Exploratory research is conducted usually in areas that lack information, areas where more information is needed so that there can be a better understanding of the problem (Bhattacharjee, 2012). Since there has not be much research done on the concept of fake news in South Africa, the exploratory research design was suitable for this study. Exploratory research aims to find the magnitude of the problem at hand, the available information on the problem, and how the problem persists (Bhattacharjee, 2012). The questions and objectives of this study aim to find new information that provide an insight into the perceptions that students in South Africa hold on the concept of news diffusion on social media in this era of fake news.

Research approach

This study will employ the quantitative research approach. A quantitative approach consist of collecting numeric data that can be used in the explanation of a problem (Lakshman, Sinha, Biswas, Charles, & Arora, 2000). According to Barnham (2015), quantitative research aims to establish a representation of the respondent thoughts. It creates a copy of reality and then tries to find out whether that representation is true or not.

2.9. Sampling Frame

Target population according to Lakshman et al. (2000), refers to the total number of people that a researcher wishes to involve in their study. Bhattacharjee (2012) explains it as being every single person from the study site with the probability of being surveyed, and according to Zott, Amit, and Massa (2010), the target population is a set of people who respond to the requirements of the study.

This study was conducted at the University of KwaZulu-Natal, Pietermaritzburg campus (UKZN PMB). This was a convenient choice determined by the limited timeframe of the research. The criteria for participation in the study was that a student should at least have used one of the social media applications. The statistics from the university's website indicates that the sampling frame is 9741 students.

2.10. Sample Size

A sample size of 370 students was determined using the Krejcie and Morgan (1970) table.

2.11. Sampling techniques

Sampling is the selection of a sample from a population with the intention of identifying the characteristics of the entire population (Farhady & Movahedi, 2013). According to the literature, there are two categories of sampling techniques for research studies: Probability and non-probability sampling techniques. Probability sampling techniques use random selections. These techniques give each unit in the target population an equal chance of being selected. But for non-probability sampling techniques, units are selected in a way that the probability of selection of each unit in the population is not known (Bhattacharjee, 2012). The sampling technique used in this study was a non-probability sampling technique. According to Bhattacharjee (2012), there are three types of non-probability sampling techniques:

- **Quota sampling:** For this technique, the researcher selects respondents existing in the same section in the population.
- **Convenience sampling:** this sampling technique, otherwise called opportunity sampling, allows the researcher to select respondents that are available or who are easy to reach.

- **Expert sampling:** Respondents are selected in accordance to their experiences on the phenomenon that the study is reflecting on.

Convenience sampling was adopted for this study. The respondents to this study were selected according to their availability. Questionnaires were handed by the researcher to some students after their various classes or practical sessions. Other students were approached while working in the library and others just standing outside, talking in groups or doing nothing.

2.12. Data collection techniques and tool

There are three data collection methods that are commonly used in research studies (Bhattacharjee, 2012):

- **Observation:** In this method, subjects are observed in their environment. The results are then recorded to be checked on for reliability at any point in time. This method is mostly used for data collection in communication sciences.
- **Interview method:** For this process, the researcher or interviewer ask questions to the respondents or interviewees. Even if the interviewer initiates the process, the interviewees can also ask questions to the interviewer. The process is then recorded by the interviewer.
- **Questionnaire method:** This method is commonly used in the collection of data. The questionnaires can handed to the respondents, mailed to them, or emailed to them. Researchers prefer email as it involves low cost and respondents can be reached even if they are living over a wide geographical area.

In this study, the questionnaire method was employed for the collection of data. However, the electronic questionnaire method was not adopted because the respondents for this study are students from UKZN PMB Campus. Students have a tendency of ignoring emails. According to Kothari (2004), a questionnaire is the most important part of the research and it should be designed with much care. The questionnaire in this study was designed in a way that it would be easy for the respondents to understand and the questions would not be taken out of context.

2.13. Conceptual Framework

A conceptual framework was developed to guide this study. This is because the researcher did not find any other predefined conceptual model that contains constructs and variables fit to investigate the perception of students on the diffusion of fake news on social media.

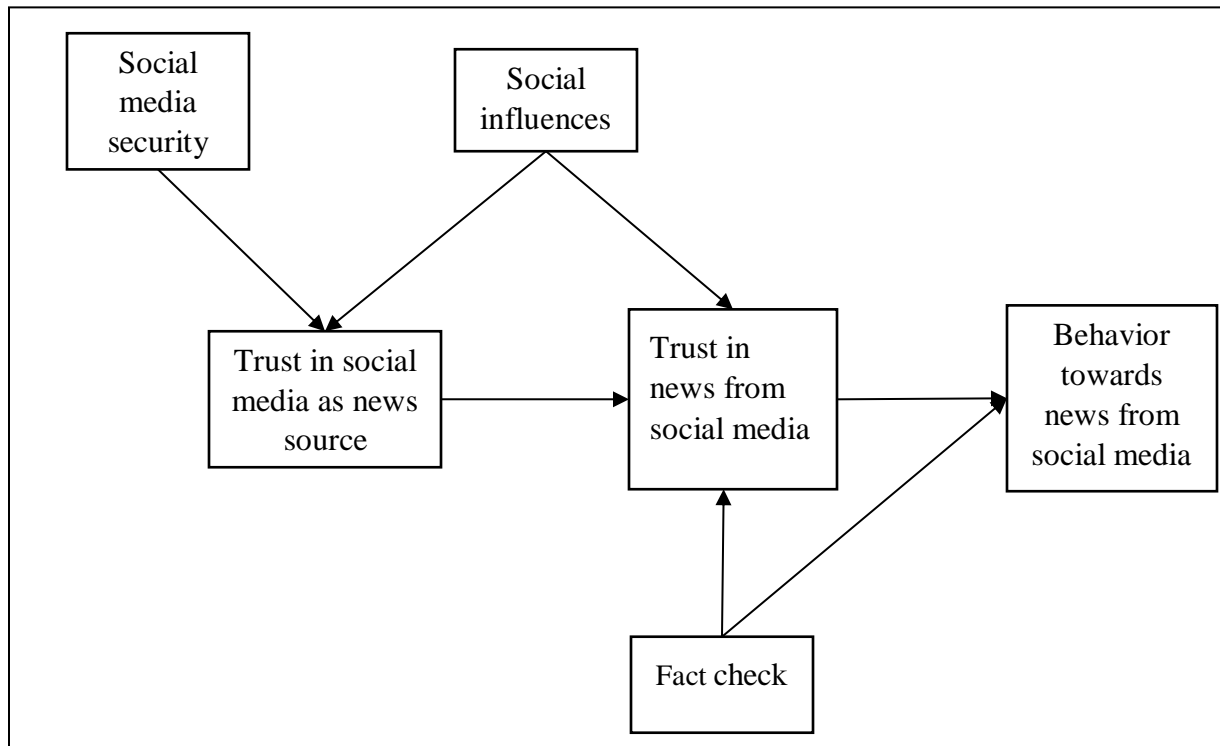


Figure 3. 1: Conceptual Framework (Bahige, 2019).

The level of trust that people hold about the news they acquire from social media is influenced by the level of trust that they hold in their social media platforms as a news source and the results that they get from performing fact check. The level of trust that people have in their social media platforms as a news source depends on their social influences and the security of their social media applications. The behavior that people have after reading news from social media depends on the level of trust that they have with regards to the news.

Social influence: According to Chan Yein, Safii, and Chan Wen (2017) social influence can be represented in three ways: compliance, conformity and obedience.

- Compliance is defined as a an attitude that one presents in a given period in response to a request (Cramer et al., 2008).
- Conformity is a change in one's behaviour, beliefs or attitude to match a set of norms that are shared by a group of people (Durand & Kremp, 2016).
- Obedience is a request addressed directly by a person authority to one person or a group of people (Liu & Chang, 2016).

Trust in social media as a news source: This represents the firm belief that people have with regards to social media platforms being reliable sources for news acquisition.

Trust in news from social media: This is a steady belief that news acquired from social media platforms is reliable.

Social media security: This simply means the set of all the measures that are put in place to protect the social media applications against any form of malware.

Fact check: In this area of news explosion, fact checking is of high importance on the news that is being diffused. Fact checking is a process to establish the credibility of the news (Ciampaglia et al., 2015).

Behavior towards news from social media: This is simply the way people treat the news that they get from their social media platforms. They might like the news, comment on the news, or share the news so that their followers can also read it.

2.14. Questionnaire Design

2.14.1. Questionnaire sections

This study questionnaire has 39 questions which were divided in seven sections. The sections are labelled from A to H.

Section A: Demographic information

This section contains questions that aimed to obtain the demographic information of the respondents. The demographic information include the age, gender, ethnicity, and faculty of the respondents.

Section B: Information about social media

This section aimed to find the connection between the respondents and their social media, how often they login to their social media applications, and how often they receive news from their social media platforms.

Section C: Level of trust in social media as a source of news

This section contained questions that aimed to find how reliable the respondents think their social media platforms are for the acquisition of news.

Section D: Social influence

This section contains questions that aimed to find how the friends and family of respondents influence them to consider getting news from social media.

Section E: Trust in the news from social media

This section aimed to investigate the level of trust that the respondents have in the news that they acquire from social media.

Section F: Fact check

In this section, the researcher aimed to investigate if the respondents perform fact checking on the news that they acquire from social media.

Section G: Behavior towards news

In this section the behavior of respondents after getting news from social media platforms was interrogated, whether they like it, share it or ignore it.

Section H: Social media security

This section investigated the understanding that the respondents have on the security of their social media applications.

2.14.2. Alignment of the research questions with the Conceptual Framework

Table 3.1 shows how the research questions were derived from the constructs of the conceptual framework that was used to shape this study.

Table 3. 1 Alignment of the research questions with the conceptual framework

Variables	Questions
Social influences	<ul style="list-style-type: none"> - What is the degree to which the university students in South Africa are socially influenced to acquire news from social media?
Social media security	<ul style="list-style-type: none"> - To what extent do university students in South Africa understand Social Media security? - How aware are students in South Africa of the various security measures that are present on their social media applications? - How aware are students in South Africa on the concept of ‘social bots’ that are being used to manipulate the news people read on social media?
Trust in social media as news source	<ul style="list-style-type: none"> - What are the factors that influence university students in South Africa to trust social media as a news source? - To what extent do students perceive social media as a platform for news acquisition?
Trust in news from social media	<ul style="list-style-type: none"> - What are the factors that influence the trust that university students have in the news they acquire from social media? - To what extent do students in South Africa perceive the news from social media as trustworthy?
Fact check	<ul style="list-style-type: none"> - What is the level of investigation that university students in South Africa perform on the news they acquire from social media?
Attitude after reading the news from social media	<ul style="list-style-type: none"> - What are the factors that shape the attitude of university students towards the news they acquire from social media? - What attitudes do students present after reading news from social media? - How do students behave after establishing the veracity of the news they acquire from social media?

2.14.3. Derivation of questionnaire from research questions

This section presents how the relationship between the research questions and the questionnaire that was used to collect data. The research questions are listed followed by the items of the questionnaire that derived from them. The research questions were comprised of three main questions and seven sub - questions. The questions are the following:

1. What are the factors that influence university students in South Africa to trust social media as a news source?
 - To what extent do students perceive social media as a platform for news acquisition?
 - I believe that social media is a reliable source for news acquisition.
 - I would recommend a friend to use social media as a source of information.
 - I subscribe to news sites that send interesting adverts on social media
 - I would recommend my friends to subscribe to news pages that I have subscribe to.
 - What is the degree to which the university students in South Africa are socially influenced to acquire news from social media?
 - I would consider social media as news source if my friends or family use it as a source of news.
 - I subscribe to news pages that my friends or family recommend to me on social media.
 - I repost interesting news that my friends or family have posted on social media.
 - To what extent do university students in South Africa understand Social Media security?
 - How aware are students in South Africa of the various security measures that are present on their social media applications?
 - I am aware of the security settings that are present on social media applications
 - I pay attention to the security settings of the social media applications that I use
 - I understand the importance of implementing security settings on my social media applications

- I learn about the security measures that are present on social media applications before I can implement them
 - I have security settings implemented on most of my social media applications
- How aware are students in South Africa on the concept of ‘social bots’ that are being used to manipulate the news people read on social media?
 - Social media bots are implemented to ensure the security of social media applications
 - I believe social media bots are implanted to prevent people from reading fake news
 - Social media bots are used to spy on social media users
 - Social media bots are put in place to learn people interests from pages they access through social media
 - Social media bots provide users with news that are in line with their interests
- 2. What are the factors that influence the trust that university students have in the news they acquire from social media?
 - To what extent do students in South Africa perceive the news from social media as trustworthy?
 - I do not trust any news that I come across on social media.
 - The more people like and share a news item on social media, the more I trust it.
 - My trust in social media news depends on the comments that it receives from other people
 - What is the level of investigation that university students in South Africa perform on the news they acquire from social media?
 - I often check other news channels to verify the news that I read on my social media pages
- 3. What are the factors that shape the attitude of university students towards the news they acquire from social media?
 - What attitudes do students present after reading news from social media?

- If I find some news interesting, I share it on my social media without checking its veracity
- I do not share news on social media, even if I am convinced that it is true
- How do students behave after establishing the veracity of the news they acquire from social media?
 - If I am sure that the news I read on social media is true, I share it so that my social media followers can also read it
 - If I think that the news is fake, I do not share it no matter how interesting it is

2.15. Distribution of questionnaires

As mentioned earlier, the target population of this study consisted of students from the University of KwaZulu-Natal, Pietermaritzburg Campus. In order to recruit the participants for the study, appointments were made with the lecturers of some of the modules so that the researcher could be allowed to meet the students after their respective classes. Other students were approached directly in various working areas, such as libraries and laboratories. The researcher also approached other students who might have been outside classrooms waiting for their next classes or done with their daily classes. The questionnaires were given by hand to the respondents and face to face. The respondents were given time to read, understand and respond to the questionnaires. But before they could respond to the questionnaire, they had to sign the consent form to confirm that their participation in the study was out of their own free will.

2.16. Handling non-response bias

Non-response bias is defined as being the result of non-responsiveness of the respondents to the questionnaires that were given to them (Bhattacharjee, 2012). Having a significant number of non-respondents can prevent the results of a study to be generalized. It is important to note that the response rate achieved in this study was high (as indicated in the next chapter). In order to achieve this, a set of measures were implemented to avoid non-response bias:

- **Relevance of the content**

The content of the questionnaire was of relevance to the students. Literature has shown that students spend much of the time online, and they used their social media platforms to learn about what happening in the world (Bhattacharjee, 2012). The respondents were more willing to participate in the study because it is related to what interests them. This might have been a reason for a high response rate.

- **Respondent-friendly questionnaire**

The questions contained in the questionnaire were clear, short, straight to the point, and easy to understand. The questions were designed in this way to avoid taking a lot of time for the respondents to read, understand and fill the questionnaire. Furthermore, they were also designed in this way, in order not to discourage the respondents from participating in the study just because the questionnaire was long. Miller and Smith (1983) stated that questionnaires designed in this way have a tendency to improve the response rate.

- **Confidentiality and privacy**

According to Bhattacharjee (2012), providing assurance to the respondents of the confidentiality of their personal information, can lead to higher response rates. An informed consent form was given to the respondents before they could fill the questionnaire. They were informed that their personal information would be kept confidential and would not be revealed to any third party during or after the research.

2.17. Ethics

According to Bhattacharjee (2012), the researchers have to conform to the ethical principles to guarantee that the research results have not been achieved subjectively. This is necessary to ensure that the research results have not been through any type of manipulation to suit the researcher's personal interests. A social science research has to follow a set of ethical principles. Those principles were used in this study and they are as follows:

- **Disclosure**

Before each data collection process could start, the researcher explained to the respondents briefly about the objectives of the study. The various terminologies that the respondents could come across while filling the questionnaire were explained. The average time that it would take to fill the questionnaire was also communicated to the respondents before they could start the process.

- **Voluntariness of participation**

The respondents in this study were informed that their participation in the study was optional. The respondents were also told that they could withdraw their participation from the study at any point if they did not feel comfortable, and they were given assurance that not participating in the study would have no impact on their academic results. The voluntariness to participate in this study was further demonstrated by getting the students who agreed to participate in the study to sign an informed consent form, declaring that their participation in the study was out their free will.

- **Anonymity and confidentiality**

The anonymity of the respondents was maintained by not revealing the respondents' identities in the section containing the analysis of the results obtained. For this reason, it is impossible for anyone to identify the participants of the study. The participants' confidentiality was guaranteed by ensuring that their identities will not be disclosed in any public medium.

According to Beauchamp and Childress (2001), non-maleficence has to be guaranteed to maintain ethics. Non-maleficence is the assurance given to the participants of a study that they are protected from any form of social, psychological, and physical harm. In this study, any possibility of maleficence was addressed in the ethical clearance form submitted to the University. An ethical clearance application form was submitted by the researcher to the Research Ethics Committee of the University of KwaZulu-Natal (UKZN). Additionally, a gatekeeper's letter of permission was obtained from the office of the Registrar of UKZN to conduct the research at the University.

2.18. Data analysis techniques

The analysis of the data acquired from the respondents started by first establishing the response rate, then a Cronbach alpha reliability test was performed on the data. According to Sekaran and Bougie (2016), the Cronbach alpha reliability test is done in a quantitative research to determine

whether the instruments used in the collection of data were reliable and without errors. After establishing the reliability of the data, the researcher performed the normality test to determine the type of statistical analysis to be conducted. This depends on whether the variables being tested follow a normal distribution or not. Before the researcher could conduct the statistical analysis that is suitable the data acquired, a set of descriptive statistics were conducted on the data.

2.19. Conclusion

This chapter presented the methodology that was followed to conduct this study. It was explained that a descriptive design was followed and a quantitative approach was employed in this study in order to achieve the objectives of the study. A non-probability sampling technique, namely convenience sampling technique, was employed to select the sample and questionnaires were used to collect the data for the study. An overview of the questionnaire used in this study was presented in this chapter, as well as how the bias was handled. The chapter concluded with a discussion on the ethical principles upheld in the study. The next chapter presents the analysis of the data obtained.

CHAPTER FOUR: FINDINGS AND ANALYSIS

4.1. Introduction

The previous chapter gave a presentation of the research methodology that was used to conduct this study. This chapter presents the responses obtained from the respondents, as well as their analysis. The report on how the questionnaire was tested for reliability and consistency is presented in this chapter. The chapter also presents the inferential and descriptive statistics of the data collected. This chapter only presents the results the way they were collected from respondents, more detailed interpretations of the results are presented in chapter five.

4.2. Response rate

As mentioned in chapter three, The targeted population for this study was of 9741 students and the sample size of 370, in conformity with the Krejcie and Morgan (1970) table. The data collection was done over a time period of two weeks. The total number of questionnaires that were distributed to students from UKZN (PMB campus) was of 370, but only 362 questionnaires were valid to be used in this study. This leading to a response rate of 97.84%; which, according to Dillman (2011), is acceptable.

4.3. Consistency and Reliability

The consistency level of the collected data was obtained by conducting a Cronbach alpha reliability test. According to Sekaran and Bougie (2016), the Cronbach alpha reliability test is done to determine whether the instruments used in the collection of data, in this case questionnaires, were reliable and without errors. A reliability test results in a Cronbach alpha with a value ranging from 0 to 1. The possibility of getting more reliable responses is higher when the value of the Cronbach alpha is close to 1 (Sekaran & Bougie, 2016). A research instrument is considered reliable if its Cronbach alpha's value is greater than 0.7 (Nunnally & Bernstein, 1967). A reliability test was performed in SPSS for the instrument that was used in this study and a Cronbach alpha of 0.814 was obtained. This is an indication that the responses and items in the questionnaire are reliable and consistent.

Table 4. 1: Reliability Statistics

Cronbach's alpha	No. of Items
.814	35

4.4. Distribution of data: Normality

The data distribution determines the the type of statistical analysis to be conducted. This is achieved by performing normality tests to see how the data is distributed. It is appropriate to perform parametric tests, using the example of the analysis of variance (ANOVA) and t-tests, if the data follows a normal distribution. According to Statistics (2013) if the data does not follow a normal distribution, non-parametric tests are more suitable to be conducted, for example the chi-square test, the Kruskal-Wallis test or the Mann-Whitney U test. The Kolmogorov Smirnov and the Shapiro-Wilk tests in SPSS were used in this study to test the normality of the data. There are two hypothesis that are used to test for the normality: The variables being tested follow a normal distribution (H_0), and the variables being tested do not follow a normal distribution (H_1); with H_0 being the null hypothesis and H_1 being the alternative hypothesis. If the significance value is greater than 0.05, it means that the data is normally distributed, but if the significant value is less than 0.05, then the data is not normally distributed (Pallant, 2013; Statistics, 2013). The results of the normality test conducted in this study indicated a significance value which is less than 0.05 (Appendix D). This then indicates that the data used in this study is not normally distributed. For this reason, non-parametric statistical tests are suitable to be conducted. Chi-square tests were conducted in this study.

4.5. Descriptive statistics of the study

4.5.1. Age of respondents

Out of the 362 students who participated in this study, 55.5% of the respondents were between the age of 18 to 21, 34.8% of the respondents were between the age of 22 and 25, 6.1% of the respondents were between the age of 26 and 30, and 3.6% of the respondents were 30 or older as shown in Figure 4. 1.

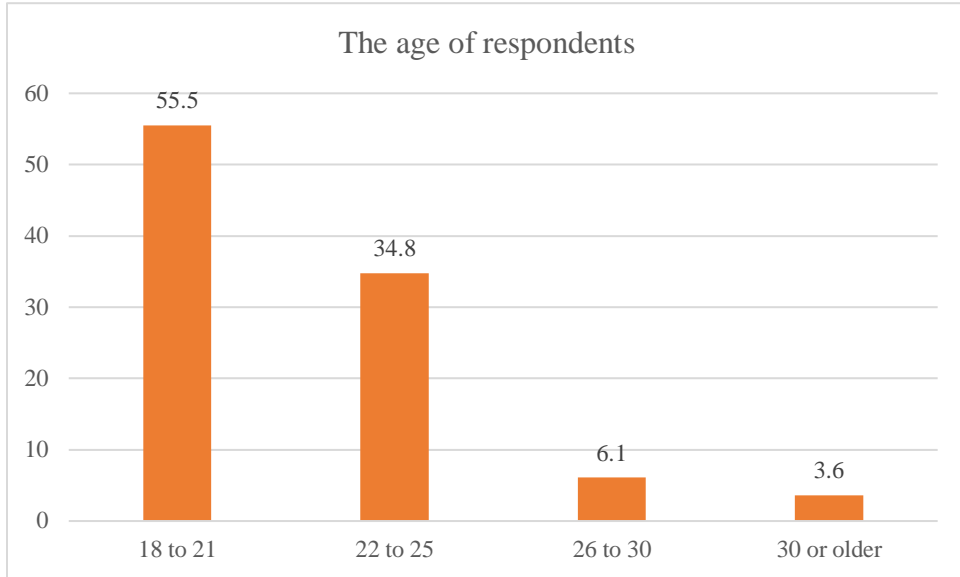


Figure 4. 1: Age range of respondents

4.5.2. Gender of respondents

From the 362 respondents, 41.6% were female and the remaining 58.4% of the respondents were male as Figure 4. 2 illustrates.

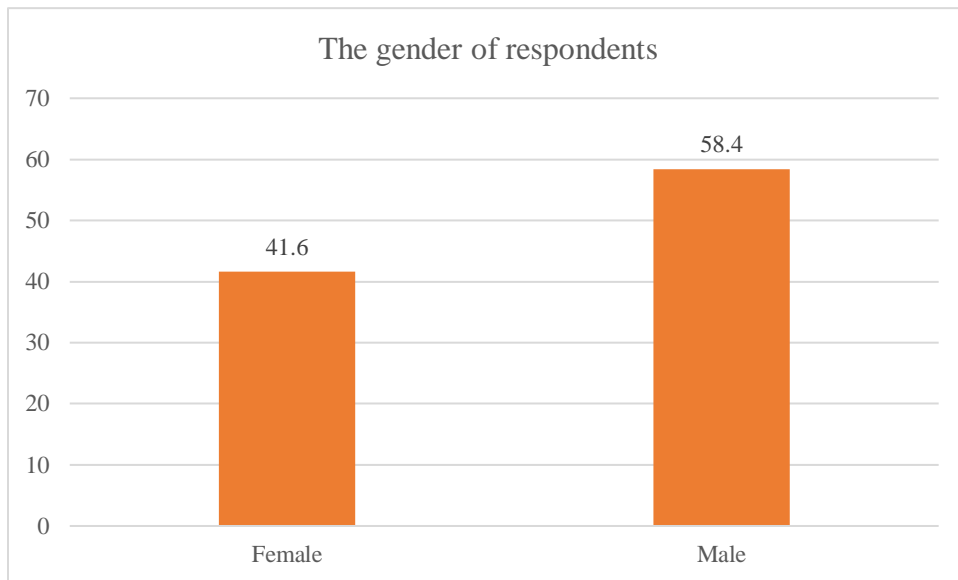


Figure 4. 2: The gender of respondents

4.5.3. Faculties of respondents

The respondents to this study were all the students of UKZN (PMB Campus). They were from different faculties: Art/Drama, Health Sciences, Law/Management, Social Sciences and Science/Technology. The statistical results obtained from this study showed that 3.9% of the respondents were from the faculty of Art/Drama, 3.3% of the respondents were from the faculty of Health Sciences, 28.3% of the respondents were from the faculty of Law/Management, 30.7% of the respondents were from the faculty of Social Sciences, and the remaining 33.8% of the respondents were from the faculty of Science/Technology as it is illustrated in Figure 4. 3.

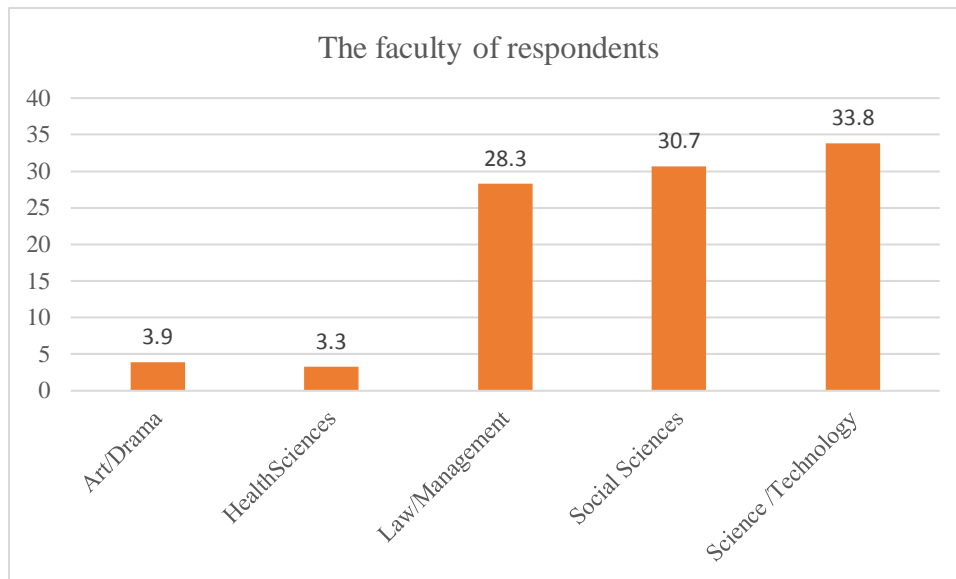


Figure 4. 3: the faculty of respondents

4.5.4. Ethnicity of the respondents

The study was conducted in South Africa, and South Africa is known for having people of various ethnic groups. The respondents to this study were from four ethnic groups: African, Indian, Coloured and White. A few of them chose not to mention the ethnic groups they belong to. Out of 362 respondents, 86.1% were from the African ethnic group, 1.9% were from the Coloured ethnic group, 8.6% were from the Indian ethnic group, 2.2% were from the White ethnic group, and 1.1% of the respondents did not to indicate their ethnic group (Figure 4. 4).

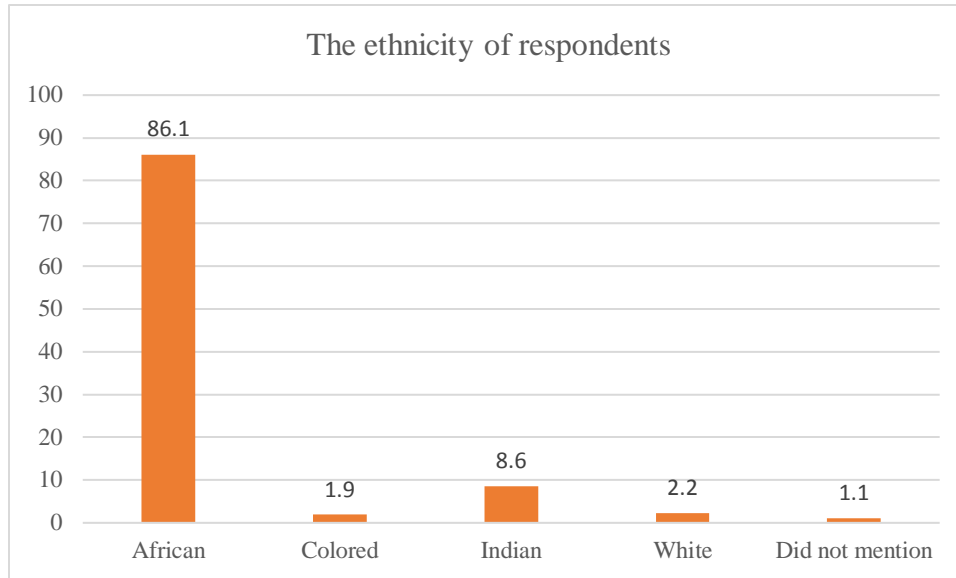


Figure 4. 4: The ethnicity of respondents

4.5.5. Information about the frequency of social media use

The respondents were asked to indicate, on a 5-point Likert scale, how often they login to their social media platforms. The elements in the Likert scale are the following: ‘More than once per day’ (coded as 5), ‘Daily’ (coded as 4), ‘Weekly’ (coded as 3), ‘Monthly’ (coded as 2), and ‘I do not use this application’ (coded as 1). The following are the responses obtained from the respondents.

The majority of the respondents (64.1%) indicated that they do not use Twitter, 9.9% of the respondents mentioned that they login to Twitter on a monthly basis, 10.5% of the respondents indicated that they login to Twitter on a weekly basis, 7.2% of the respondents indicated that they login to Twitter on a daily basis, and 8.3% of the respondents indicated that they login to Twitter more than once per day (B in Figure 4. 5). Furthermore, 18.8% percent of the respondents indicated that they don’t use Facebook, 10.2% of the respondents indicated that they login to the application on a monthly basis, 14.6% of the respondents indicated that they login to the application on a weekly basis, 26.8% of the respondents indicated that they login to the application on a daily basis and 29.6% of the respondents indicated that they login to the application more than once per day (A in Figure 4. 5). For Yahoo, Pinterest and LinkedIn, the majority of the respondents indicated that they do not use those applications (84.3% of the respondents for Yahoo, 82% of the respondents for Pinterest and 73.5% of the respondents for LinkedIn). On a monthly basis, 5% of

the respondents mentioned that they login to Yahoo, 6.9% of the respondents to Pinterest and 13% of the respondents to LinkedIn. On a weekly basis, 4.1% of the respondents said that they login to Yahoo, 4.7% of the respondents to Pinterest and 7.7% of the respondents to LinkedIn. On a daily basis, 4.7% of the respondents said that they login to Yahoo, 3.3% of the respondents to Pinterest and 3.9% of the respondents to LinkedIn. The remainder of the respondents mentioned that they login to these applications more than once per day (1.9% of the respondents for Yahoo, 3% of the respondents for Pinterest and 1.9% of the respondents for LinkedIn) (C, D, E in Figure 4. 5).

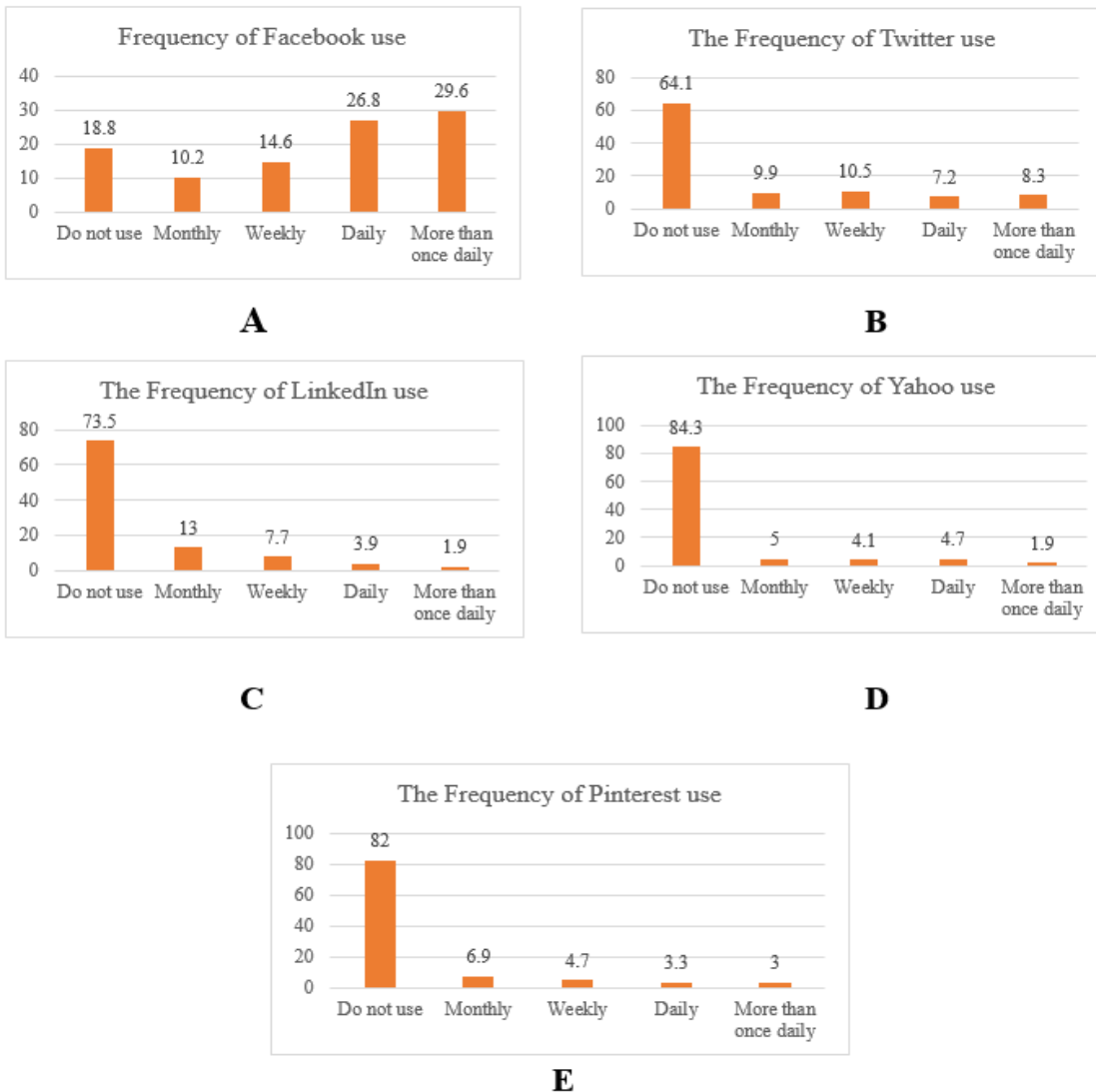


Figure 4. 5: The frequency of social media use

4.5.6. Information about the acquisition of news from social media

The respondents were asked to indicate, on a 5-point Likert scale, how often they get news from their social media applications. The elements in the Likert scale are as it follows: 'More than once per day' (coded as 5), 'Daily' (coded as 4), 'Weekly' (coded as 3), 'Monthly' (coded as 2), and 'I do not get my news from this application' (coded as 1).

A large number of the respondents (68.2%) indicated that they do not get their news from Twitter, 7.5% of the respondents indicated that they get their news from Twitter on a monthly basis, 8.8% of the respondents indicated that they get their news from Twitter on a weekly basis, 8.6% of the respondents indicated that they get their news from Twitter on a daily basis, and 6.9% of the respondents indicated that they get their news from Twitter more than once per day (A in Figure 4. 6). For Facebook, 28.5% percent of the respondents indicated that they do not use the application for news acquisition, 9.9% of the respondents indicated that they use to the application for news acquisition on a monthly basis, 14.1% of the respondents indicated that they use to the application for news acquisition on a weekly basis, 27.3% of the respondents indicated that they use Facebook for news acquisition on a daily basis and 29.6% of the respondents indicated that they acquire their news from the application more than once per day (B in Figure 4. 6). For Yahoo, Pinterest and LinkedIn, the majority of the respondents do not use those applications for news acquisition (87.3% of the respondents for Yahoo, 89.8% of the respondents for Pinterest and 83.9% of the respondents for LinkedIn). On a monthly basis, 4.4% of the respondents indicated that they acquire news from Yahoo, 4.4% of the respondents from Pinterest and 4.7% of the respondents from LinkedIn. On a weekly basis, 3% of the respondents indicated that they acquire their news from Yahoo, 0.8% of the respondents from Pinterest and 6.1% of the respondents from LinkedIn. On a daily basis, 4.1% of the respondents indicated that they use Yahoo for news acquisition, 3% of the respondents use Pinterest and 4.4% of the respondents use LinkedIn. The remainder of the respondents indicated that they use the applications to acquire their news more than once per day (1.1% of the respondents from Yahoo, 1.9% of the respondents from Pinterest and 0.8% of the respondents from LinkedIn) (C, D, E in Figure 4. 6).

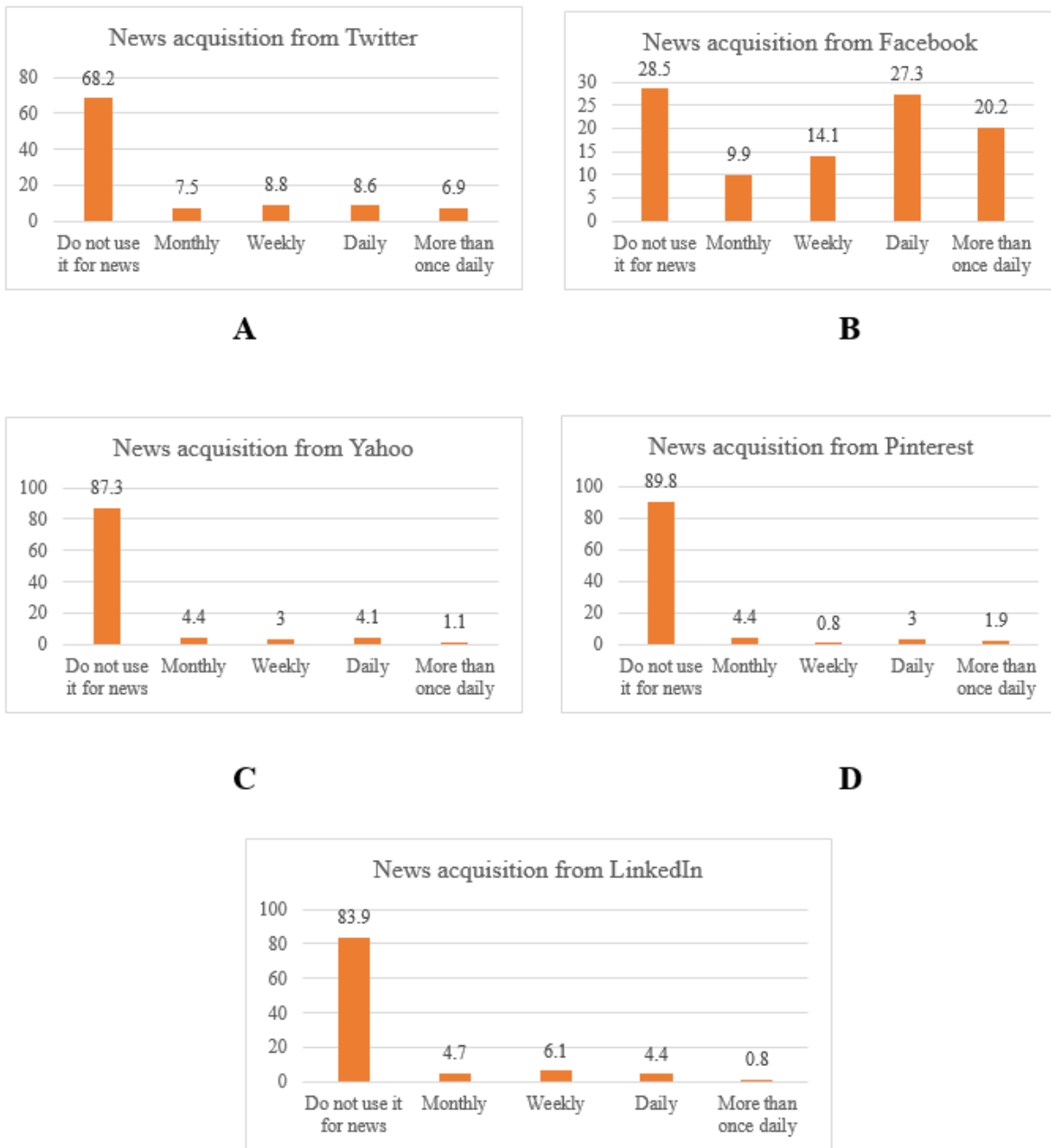


Figure 4. 6: The acquisition of news from social media

4.5.7. Constructs used in the study

The questions asked to the respondents are related to the conceptual framework, namely: level of trust in news from social media, social influence, trust in social media as a news source, attitude towards news, and social media security. The responses to the questions of each construct were

given on a Likert scale of ‘Strongly agree’, coded as 5, to ‘Strongly Disagree’, coded as 1. The following presents the responses of respondents to the questions of each construct.

4.5.7.1. Trust in social media as a news source

More than half of the respondents (55.3%) indicated that they believe that social media is a reliable source for the acquisition of news while 14.6% of the respondents indicated that they do not believe that social media is a reliable source for news acquisition (A in Figure 4.7). More than half of the respondents (52.7%) indicated that they would recommend their friend to use social media as a source of information, while 22.4% of the respondents indicated that they would not recommend their friend to use social media as a source of information (B in Figure 4.7). Less than half of the respondents (48.4%) indicated to subscribing to news sites that send interesting adverts on social media, while 28.4% of the respondents indicated that they do not subscribe to news sites that send interesting adverts on social media (C in Figure 4.7). Furthermore, 52.2% of the respondents indicated that they would recommend their friends to subscribe to news pages that they have subscribed to, but 19.6% of the respondents indicated that they would not recommend their friends to subscribe to news pages that they have subscribed to (D in Figure 4.7).

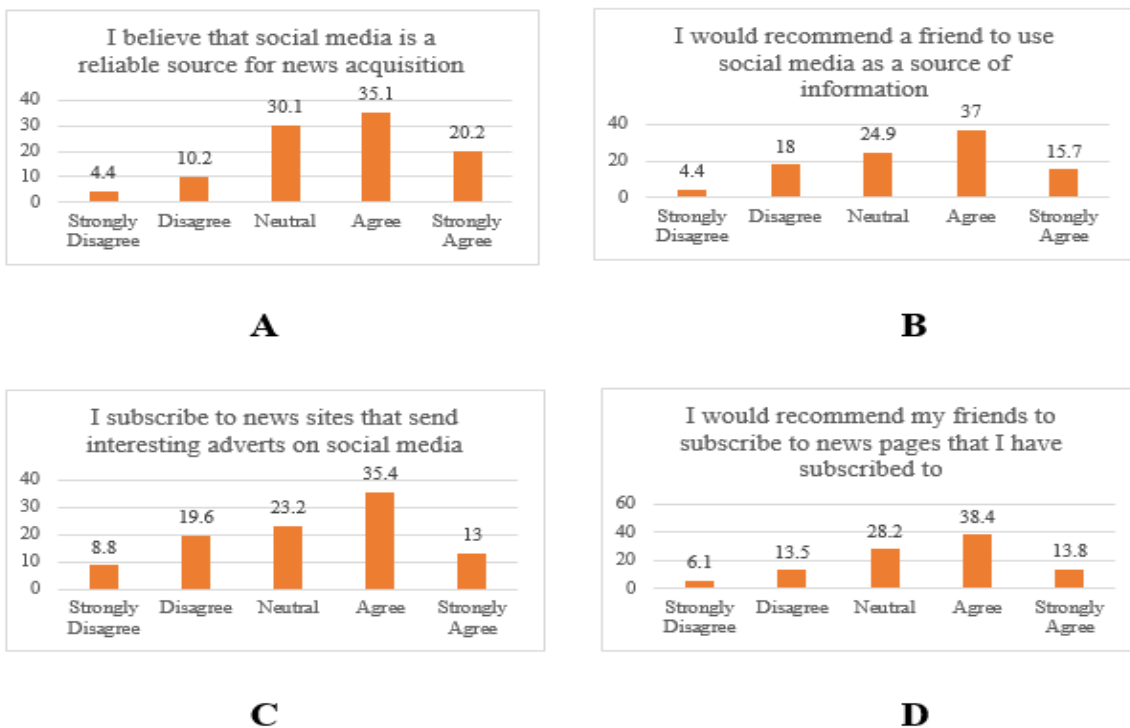


Figure 4. 7: Trust in social media as a news source

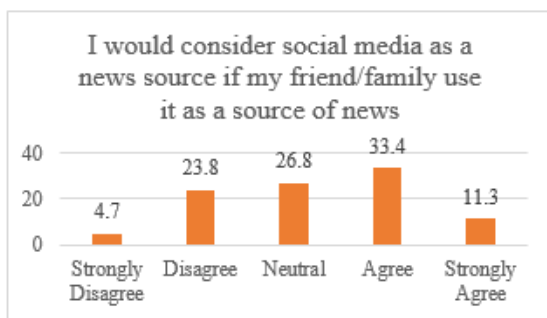
Table 4. 2: One sample test on the trust in social media as a news source

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
I believe that social media is a reliable source for news acquisition	10.122	361	0.000	0.564	0.45	0.67
I would recommend a friend to use social media as a source of information	7.289	361	0.000	0.417	0.30	0.53
I subscribe to news sites that send interesting adverts on social media	3.909	361	0.000	0.240	0.12	0.36
I would recommend my friends to subscribe to news pages that i have subscribed to	7.139	361	0.000	0.403	0.29	0.51

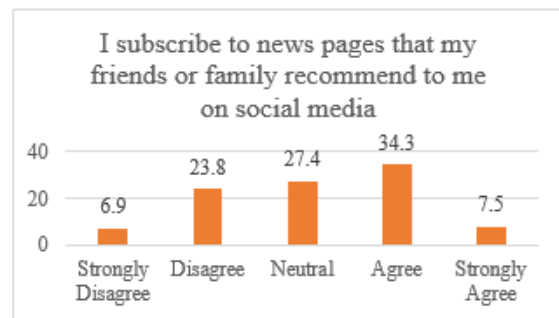
The results from the one sample test shows that the means differences of the items of the construct ‘Trust in social media as a news source’ are greater than 0, their confidence intervals do not include 0 and their Pearson values are less than 0.05. In conclusion, there is significant agreement on the construct.

4.5.7.2. Social influence

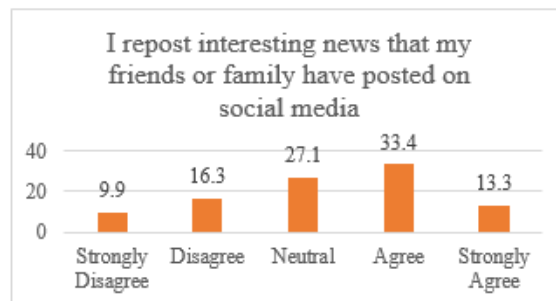
Results from the analysis showed that 44.7% of the respondents indicated that they would consider social media as a news source if their friends or family use it as a source of news. However, 28.5% of the respondents indicated that they would not consider social media as a news source even if their friends or family use it as a source of news (A in Figure 4. 8). The results also showed that 41.8% of the respondents indicated that they subscribe to news pages that their friends or family recommend to them on social media, but 30.7% of the respondents indicated that they do not subscribe to news pages that their friends or family recommend to them on social media (B in Figure 4. 8). The results further show that 46.7% of the respondents indicated that they do repost interesting news that their friends or family have posted on social media while 26.2% of the respondents indicated that they do not repost interesting news that their friends or family have posted on social media (C in Figure 4. 8).



A



B



C

Figure 4. 8: Social influence

Table 4. 3: One sample test on social influence

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
I would consider social media as a news source if my friends/family use it as a source of news	4.045	361	0.000	0.229	0.12	0.34
I subscribe to news pages that my friends or family recommend to me on social media	2.064	360	0.040	0.116	0.01	0.23
I repost interesting news that my friends or family have posted on social media	3.858	361	0.000	0.238	0.12	0.36

The results from the one sample test shows that the means differences of the items of the construct ‘Social influence’ are greater than 0, their confidence intervals do not include 0 and their Pearson values are less than 0.05. In conclusion, there is significant agreement on the construct ‘Social influence’.

4.5.7.3. Trust in news from social media

From the responses obtained, 27.3% of the respondents indicated that they do trust any news that they come across on social media, while 20.4% of the respondents indicated that they do not trust any news that they come across on social media (A in Figure 4. 9). In addition to this, 30.4% of the respondents indicated that they trust more the news on social media if more people like and share it, but 37.9% of the respondents indicated even if a news get many likes on social media, they still do not trust it (B in Figure 4. 9). Also, 32.8% of the respondents indicated that their trust in social media news depends on the comments that it receives from other people, and 38.4% of the respondents indicated that their trust in social media news does not depend on the comments that it receives from other people (C in Figure 4. 9).

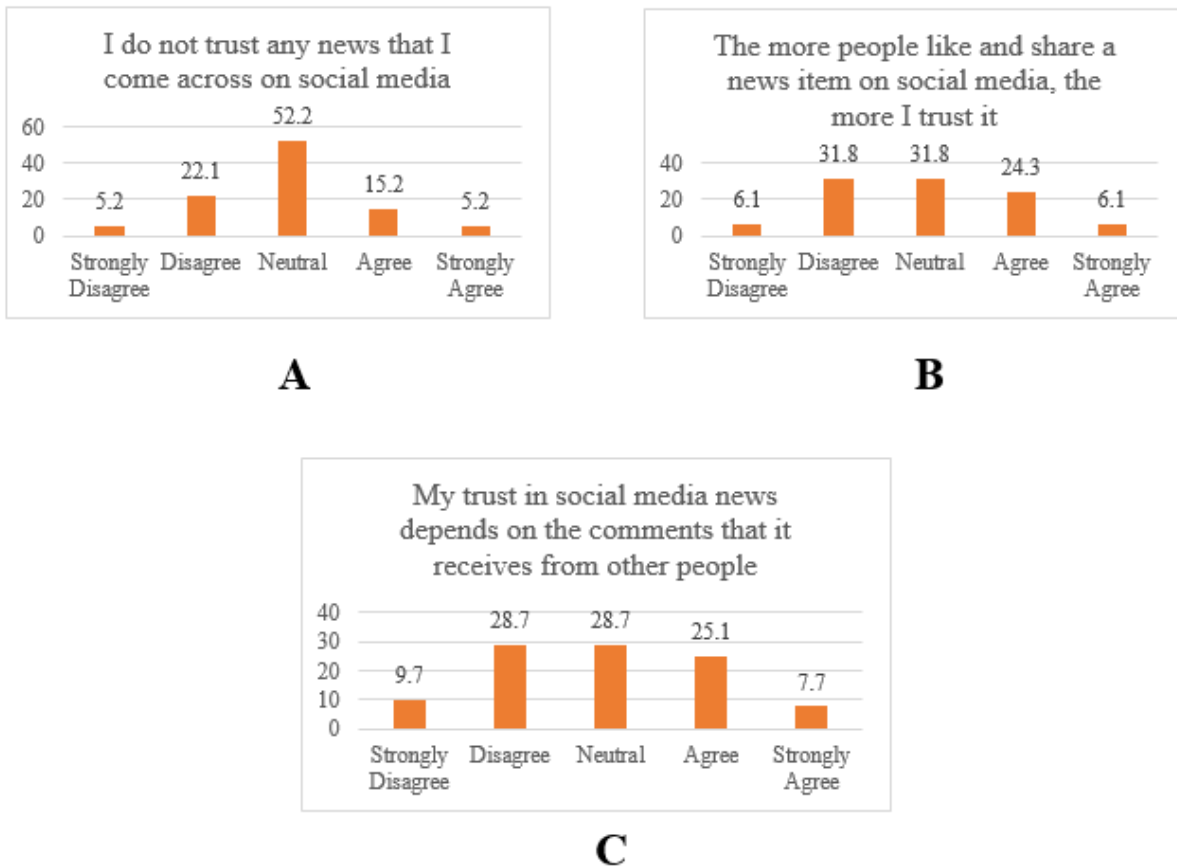


Figure 4. 9: Trust in news from social media

Table 4. 4: One sample test on the trust in new from social media

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
I do not trust any news that i come across on social media	-1.478	361	0.140	-0.069	-0.16	0.02
The more people like and share a news item on social media, the more I trust it	-1.389	361	0.166	-0.075	-0.18	0.03
My trust in social media news depends on the comments that it receives from other people	-1.278	361	0.202	-0.075	-0.19	0.04

The results from the one sample test shows that the means differences of the items of the construct ‘Social influence’ are less than 0, their confidence intervals include 0 and their Pearson values are greater than 0.05. In conclusion, there is no significant agreement on the construct ‘Trust in news from social media’.

4.5.7.4. Fact check

The majority of the respondents (81.8%) indicated that they often check other news channels to verify the news that they read from their social media pages, but 4.4% of the respondents indicated to not checking other news channels to verify what they read on their social media pages (Figure 4. 10).

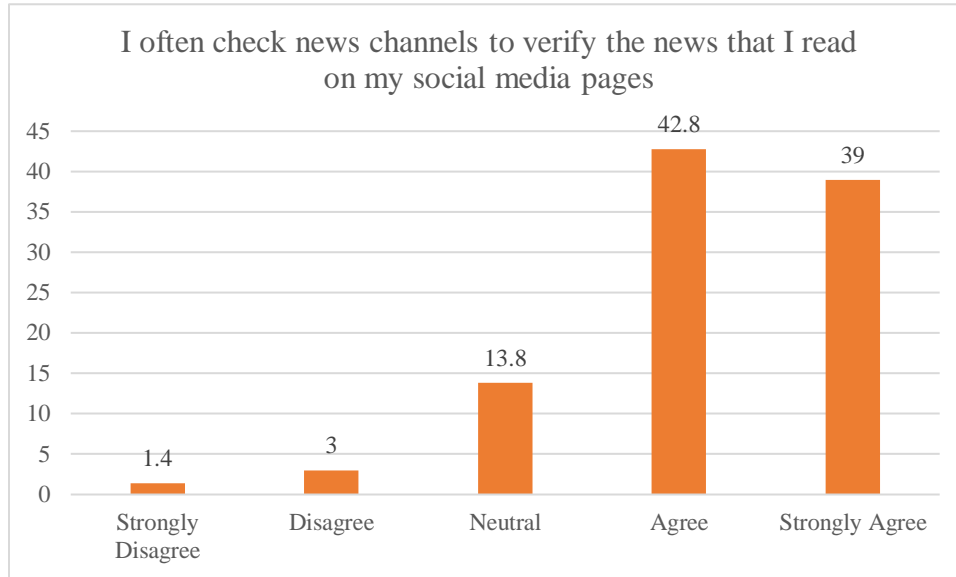


Figure 4. 10: Fact check

Table 4. 5: One sample test on fact check

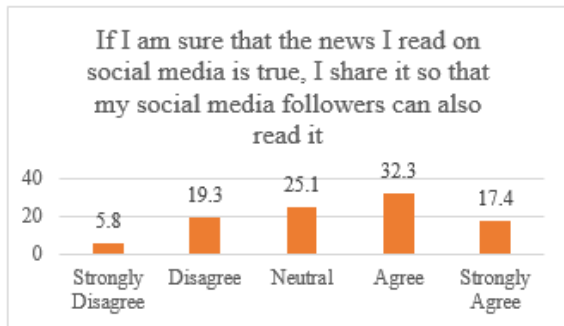
One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
I often check news channels to verify the news that I read on my social media pages	25.191	361	0.000	1.149	1.06	1.24

The results from the one sample test shows that the mean difference of the item of the construct ‘Fact check’ is greater than 0, the confidence interval does not include 0 and the Pearson value is less than 0.05. In conclusion, there is significant agreement on the construct ‘Fact check.

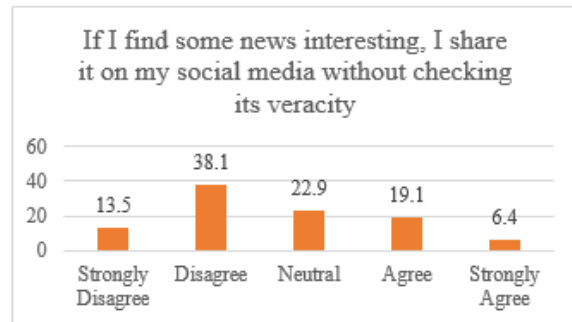
4.5.7.5. Behavior towards news from social media

Almost half of the respondents (49.7%) indicated that they share the news that they read on social media if they are sure that the news is true, but 25.1% of the respondents indicated that they do not share the news that they read on social media even if they are sure that it is true (A in Figure 4. 11). Also, 25.5% of the respondents indicated that they do share interesting news on social media without checking its veracity. But more than half of the respondents (51.6%) indicated that they do not share interesting news on their social media platforms without checking its veracity (B in

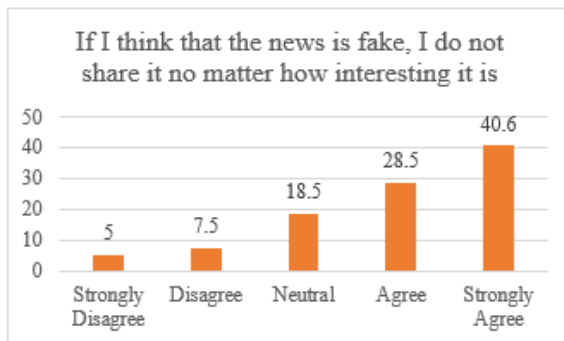
Figure 4. 11). In addition, the majority of the respondents (69.1%) indicated that they would not share news, no matter how interesting it is, if they think that it is fake. But 12.5% of the respondents indicated that they would share interesting news even if they think that it is fake (C in Figure 4. 11). Furthermore, 30.4% of the respondents indicated that they do not share news on social media even if they are convinced that it is true. But 42.8% of the respondents indicated that if they are convinced that some news is true, they share it on social media (D in Figure 4. 11).



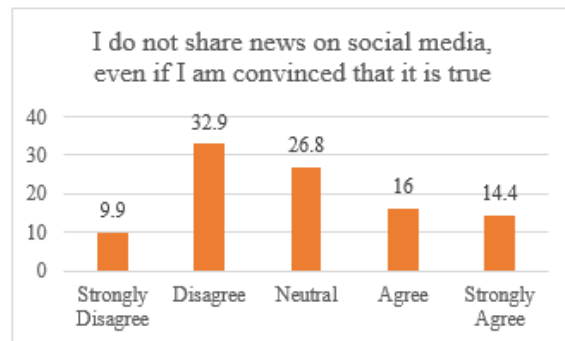
A



B



C



D

Figure 4. 11: Behavior towards news from social media

Table 4. 6: One sample test on the behavior towards news from social media

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
If I am sure that the news i read on social media is true, I share it so that my social media followers can also read it	5.999	361	0.000	0.362	0.24	0.48
If i find some news interesting, I share it on my social media without checking its veracity	-5.667	361	0.000	-0.334	-0.45	-0.22
If I think that the news is fake, I do not share it no matter how interesting it is	15.195	361	0.000	0.923	0.80	1.04
I do not share news on social media, even if I am convinced it is true	-1.262	361	0.208	-0.080	-0.20	0.04

The results from the one sample test shows that the means differences of some of the items of the construct ‘Behavior towards news from social media’ are greater than 0, and some of their confidence intervals do not include 0. However, the Pearson values of all the items are less than 0.05. In conclusion, there is no significant agreement on the construct ‘Behavior towards news from social media’.

4.5.7.6. Social media security

- Social media bots

Less than half of the respondents (38.7%) indicated that social media bots are implemented to ensure the security of social media applications, but 11.8% of the respondents indicated that social media bots are not implemented to ensure the security of social media applications (A in Figure 4. 12). In addition, 35.1% of the respondents indicated that they believe that social media bots are implanted to prevent people from reading fake news, but 23.7% of the respondents indicated that they do not believe that social media bots are implanted to prevent people from reading fake news (B in Figure 4. 12). 30.1% of the respondents indicated that social media bots are used to spy on

social media users, and 24.6% of the respondents indicated that they do not think that social media bots are used to spy on social media users (C in Figure 4. 12). In addition, 56% of the respondents indicated that social media bots are put in place to learn people interests from pages they access through social media, but 7.7% of the respondents indicated that they do not think that social media bots are put in place to learn people interests from pages that they access through social media (D in Figure 4. 12). Furthermore, 55% of the respondents indicated that social media bots provide users with news that are in line with their interests, but 7.5% of the respondents indicated that they do not believe that social media bots provide users with news that are in line with their interests (E in Figure 4. 12).

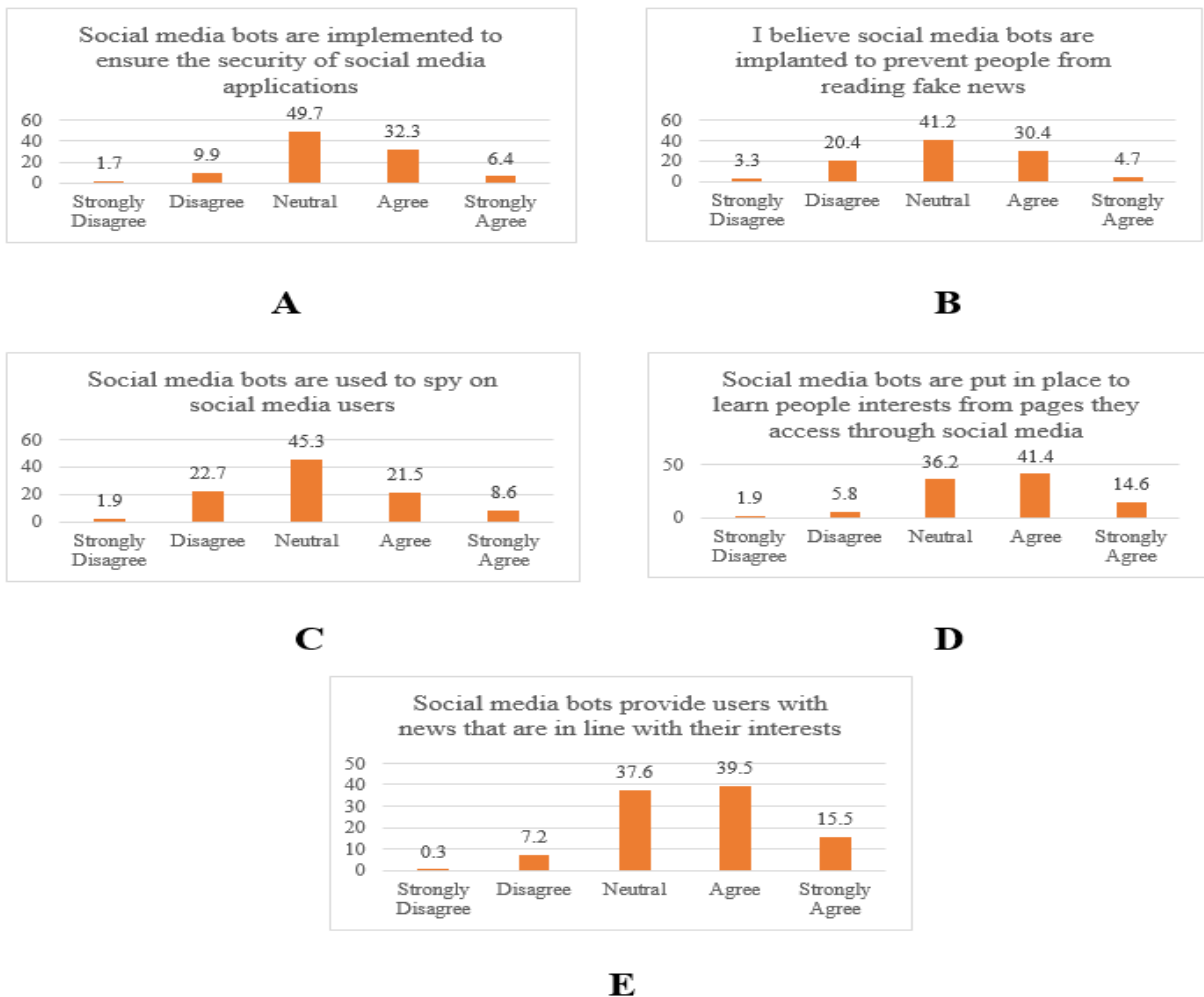


Figure 4. 12: Social media bots

Table 4. 7: One sample test on Social media bots

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
Social media bots are implemented to ensure the security of social media applications	7.532	361	0.000	0.318	0.23	0.40
I believe social media bots are implanted to prevent people from reading fake news	2.678	361	0.008	0.127	0.03	0.22
Social media bots are used to spy on social media users	2.509	361	0.013	0.122	0.03	0.22
Social media bots are put in place to learn people interests from pages they access through social media	13.282	361	0.000	0.610	0.52	0.70
Social media bots provide users with news that are in line with their interests	14.205	361	0.000	0.627	0.54	0.71

The results from the one sample test shows that the means differences of the items in relation to social media bots are greater than 0, their confidence intervals do not include 0, and their Pearson values are less than 0.05.

- Social media applications security

From the responses obtained, the majority of the respondents (69.4%) indicated that they are aware of the security settings that are present on social media applications, while 11.1% of the respondents indicated that they were not aware of the security settings available on their social media applications (A in Figure 4. 13). Similarly, the majority of the respondents (65.2%) indicated that they pay attention to the security settings of their social media applications, but 15.5% of the respondents indicated that they do not pay attention to the security settings of their social media applications (B in Figure 4. 13). Also, most of the respondents (78.8%) indicated that they understand the importance of implementing security settings on their social media

applications, while 5.8% of the respondents indicated they do not (C in Figure 4. 13). More than half of the respondents (55.8%) indicated that they learn about the security measures that are present on social media applications before they can implement them, but 19.7% of the respondents indicated that they do not (D in Figure 4. 13). Furthermore, 71.3% of the respondents indicated that they have security settings implemented on most of their social media applications, but 10.8% of the respondents indicated to not having security settings implemented on most of their social media applications (E in Figure 4. 13).

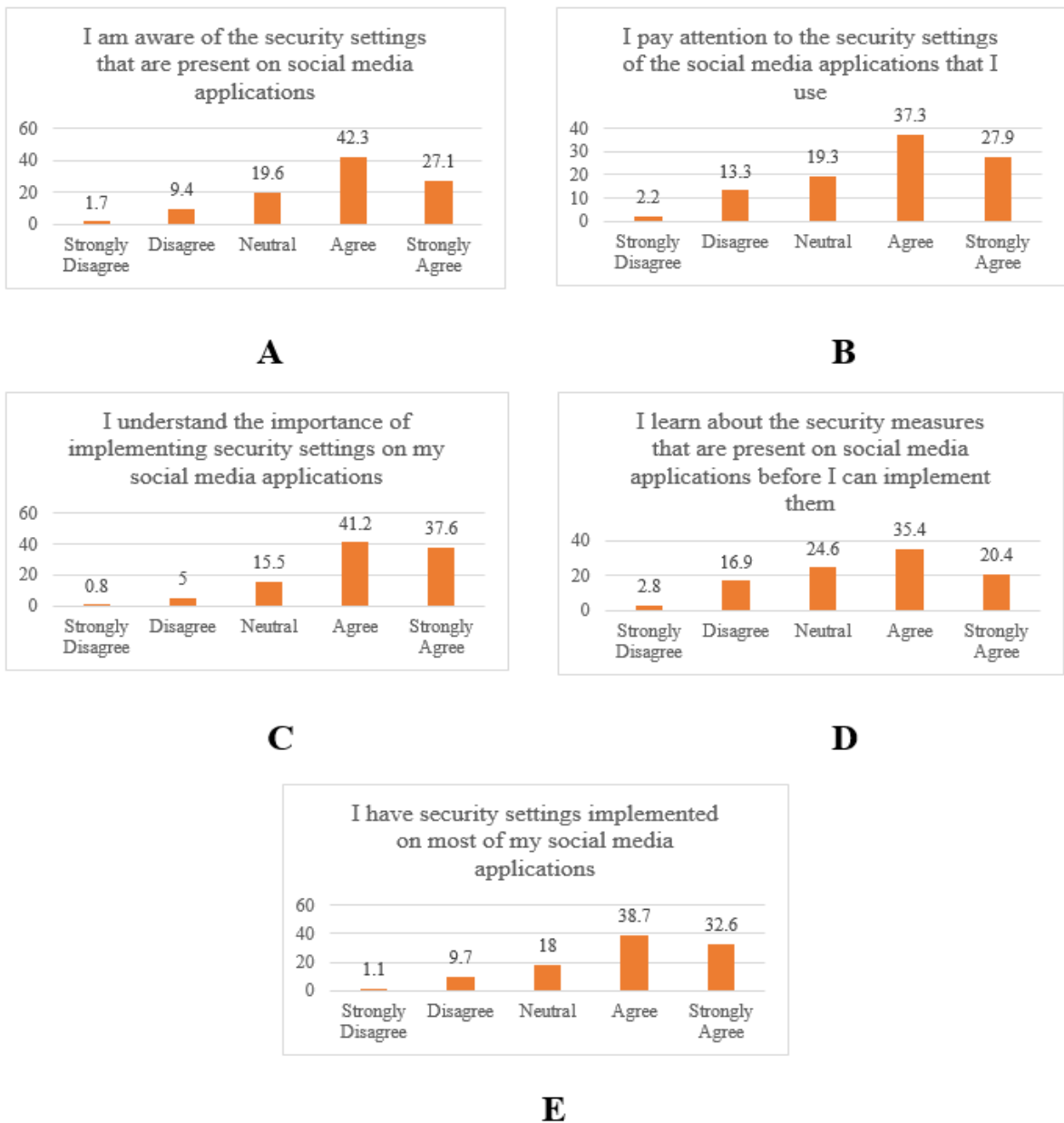


Figure 4. 13: Social media application security

Table 4. 8: One sample test on social media security

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Difference	95% Confidence	
					Lower	Upper
I am aware of the security settings that are present on social media applications	16.188	361	0.000	0.837	0.74	0.94
I pay attention to the security settings of the social media applications that I use	13.413	361	0.000	0.754	0.64	0.86
I understand the importance of implementing security settings on my social media applications	23.377	361	0.000	1.097	1.00	1.19
I learn about the security measures that are present on social media applications before I can implement them	9.502	361	0.000	0.539	0.43	0.65
I have security settings implemented on most of my social media applications	17.608	361	0.000	0.920	0.82	1.02

The results from the one sample test shows that the means differences of the items in relation to social media security are greater than 0, their confidence intervals do not include 0, and their Pearson values are less than 0.05. In conclusion, there is significant agreement on the construct ‘Social media security’.

4.6. Cross tabulations and Chi-square tests

In this study, cross tabulations (crosstabs) were used to determine whether significant relationships exist between the categorical variables of the study. According to Gartung, Edholm, Edholm, McNall, and Lew (2001) cross tabulation is used to provide means that allow the researcher to delve into the research findings and draw an evaluation of the different variables, and then make judgements. Cross tabulation gives a representation of the result of the respondents, their entire

group and sub-groups, to facilitate the evaluation of the existing relationship within the data set. The Chi-square test was also used to determine if there exists a significant relationship between the variables in the cross tabulation. Bryman and Cramer (2012) said that the value of the Chi-square should be less than 0.05 (Pearson value, $P < 0.05$) so that there can be significant relationship between the variables being examined. The following presents the results of the cross tabulation as well as the P values obtained to determine how significant the relationships of the variables tested are.

4.6.1. Cross tabulations between Gender and Social media use

Cross tabulation was done between the gender of the respondents and how often they login to social media platforms. The cross tabulation was done separately for each social media platform.

- Cross tabulation between Gender and Twitter use

A large percentage of the female respondents (68.7%) indicated that they do not use twitter as well as a large percentage of male respondents (61.1%). 6% of the female respondents and 12.8% of the male respondents indicated that they login to Twitter on a monthly basis. 8.7% of the female respondents and 11.8% of the male respondents indicated they login to twitter on a weekly basis. Furthermore, 6% of the female respondents indicated that they login to twitter on a daily basis, along with 7.6% of the male respondents. Finally, 10.7% of the female respondents indicated that they login to twitter more than once per day as well as 6.6% of the male respondents.

Table 4. 9: Cross tabulation between Gender and Twitter use

			The frequency of Twitter use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	103	9	13	9	16	150
		% within The gender of respondents	68.7%	6.0%	8.7%	6.0%	10.7%	100.0%
		% within The frequency of Twitter use	44.4%	25.0%	34.2%	36.0%	53.3%	41.6%
	male	Count	129	27	25	16	14	211
		% within The gender of respondents	61.1%	12.8%	11.8%	7.6%	6.6%	100.0%
		% within The frequency of Twitter use	55.6%	75.0%	65.8%	64.0%	46.7%	58.4%
Total	Count	232	36	38	25	30	361	
	% within The gender of respondents	64.3%	10.0%	10.5%	6.9%	8.3%	100.0%	
	% within The frequency of Twitter use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

The chi-square test was conducted alongside the crosstab test above and it produced an asymptotic significance value of 0.103, which is not less than 0.05, indicating that there is no significant relationship between the gender of the respondents and their use of twitter.

- Cross Tabulation between Gender and Facebook

A not so large percentage of the female (22%) and male (16.6%) respondents indicated that they do not use Facebook. 8.7% of the female respondents and 11.4% of the male respondents indicated that they login to Facebook on a monthly basis. 14% of the female respondents as well as 15.2% of the male respondents indicated that they login to Facebook on a weekly basis. 20.7% of the female respondents and 31.3% of the male respondents indicated that they login to Facebook on a daily basis. Finally, 34.7% of the female respondents and 25.6% of the male respondents indicated that they login to Facebook more than once per day.

Table 4. 10: Cross Tabulation between Gender and Facebook

			The frequency of Facebook use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	33	13	21	31	52	150
		% within The gender of respondents	22.0%	8.7%	14.0%	20.7%	34.7%	100.0%
		% within The frequency of Facebook use	48.5%	35.1%	39.6%	32.0%	49.1%	41.6%
	male	Count	35	24	32	66	54	211
		% within The gender of respondents	16.6%	11.4%	15.2%	31.3%	25.6%	100.0%
		% within The frequency of Facebook use	51.5%	64.9%	60.4%	68.0%	50.9%	58.4%
Total	Count	68	37	53	97	106	361	
	% within The gender of respondents	18.8%	10.2%	14.7%	26.9%	29.4%	100.0%	
	% within The frequency of Facebook use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

The Chi-square test conducted, along with the cross tabulation, produced an asymptotic significance value of 0.084, which is not less than 0.05, thereby indicating that there is no significant relationship between the gender of the respondents and their use of Facebook.

- Cross Tabulation between Gender and Yahoo

A large percentage of the female (85.3%) as well as the male (83.4%) respondents indicated that they do not use Yahoo. 4% of the female respondents and 5.7% of the male respondents indicated that they login to Yahoo on a monthly basis. 4% of the female respondents as well as 4.3% of the male respondents indicated that they login to Yahoo on a weekly basis. 5.3% of the female respondents and 4.3% of the male respondents indicated that they login to Yahoo on a daily basis. Finally, 1.3% of the female respondents, along with 2.4% of the male respondents indicated that they login to Yahoo more than once per day.

Table 4. 11: Cross Tabulation between Gender and Yahoo

			The frequency of Yahoo use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	128	6	6	8	2	150
		% within The gender of respondents	85.3%	4.0%	4.0%	5.3%	1.3%	100.0%
		% within The frequency of Yahoo use	42.1%	33.3%	40.0%	47.1%	28.6%	41.6%
	male	Count	176	12	9	9	5	211
		% within The gender of respondents	83.4%	5.7%	4.3%	4.3%	2.4%	100.0%
		% within The frequency of Yahoo use	57.9%	66.7%	60.0%	52.9%	71.4%	58.4%
Total		Count	304	18	15	17	7	361
		% within The gender of respondents	84.2%	5.0%	4.2%	4.7%	1.9%	100.0%
		% within The frequency of Yahoo use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The Chi-square test conducted produced an asymptotic significance value of 0.870, which is not less than 0.05, thereby indicating that there is no significant relationship between the gender of the respondents and their use of Yahoo.

- Cross Tabulation between Gender and Pinterest

A large percentage of the female respondents (72.7%) and male respondents (88.6%) indicated that they do not use Pinterest. 11.3% of the female respondents and 3.8% of the male respondents indicated that they login to Pinterest on a monthly basis; 7.3% of the female respondents and 2.8% of the male respondents indicated that they login to Pinterest on a weekly basis; 5.3% of the female respondents and 1.9% of the male respondents indicated that they login to Pinterest on a daily basis; and finally, 3.3% of the female respondents and 2.8% of the male respondents indicated that they login to Pinterest more than once per day.

Table 4. 12: Cross Tabulation between Gender and Pinterest

			The frequency of Pinterest use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	109	17	11	8	5	150
		% within The gender of respondents	72.7%	11.3%	7.3%	5.3%	3.3%	100.0%
		% within The frequency of Pinterest use	36.8%	68.0%	64.7%	66.7%	45.5%	41.6%
	male	Count	187	8	6	4	6	211
		% within The gender of respondents	88.6%	3.8%	2.8%	1.9%	2.8%	100.0%
		% within The frequency of Pinterest use	63.2%	32.0%	35.3%	33.3%	54.5%	58.4%
Total	Count	296	25	17	12	11	361	
	% within The gender of respondents	82.0%	6.9%	4.7%	3.3%	3.0%	100.0%	
	% within The frequency of Pinterest use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

The chi-square test was conducted alongside the crosstab test above and it produced an asymptotic significance value of 0.02, which is less than 0.05, indicating that there is a significant relationship between the gender of the respondents and their use of Pinterest. This shows that Pinterest is used more by the female respondents.

- Cross Tabulation between Gender and LinkedIn

The majority of the female respondents (81.3%) as well as the majority of the male respondents (67.8%) indicated that they do not use LinkedIn. 10% of the female respondents and 15.2% of the male respondents indicated that they login to LinkedIn on a monthly basis; 3.3% of the female respondents and 10.9% of the male respondents indicated that they login to LinkedIn on a weekly basis; 2.7% of the female respondents and 4.7% of the male respondents indicated that they login on LinkedIn on a daily basis; and 2.7% of the female respondents and 1.4% of the male respondents indicated that they login to LinkedIn more than once per day.

Table 4. 13: Cross Tabulation between Gender and LinkedIn

			The frequency of LinkedIn use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	122	15	5	4	4	150
		% within The gender of respondents	81.3%	10.0%	3.3%	2.7%	2.7%	100.0%
		% within The frequency of LinkedIn use	46.0%	31.9%	17.9%	28.6%	57.1%	41.6%
	male	Count	143	32	23	10	3	211
		% within The gender of respondents	67.8%	15.2%	10.9%	4.7%	1.4%	100.0%
		% within The frequency of LinkedIn use	54.0%	68.1%	82.1%	71.4%	42.9%	58.4%
Total		Count	265	47	28	14	7	361
		% within The gender of respondents	73.4%	13.0%	7.8%	3.9%	1.9%	100.0%
		% within The frequency of LinkedIn use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test produced an asymptotic significance value of 0.016, which is less than 0.05, indicating that there is a significant relationship between the gender of the respondents and their use of LinkedIn. This indicates that LinkedIn is used more by the male respondents.

- Chi-square test between Gender and the use of social media

The chi square test was conducted along with the cross tabulations between the gender and the use of social media. The test was done separately for each of the social platform. The chi square test results for most of the platforms showed that there is no significant relationship gender and the use of social media platforms. This then indicates that there is no difference between females and males in how often the use their social media platforms.

Table 4. 14: Chi-square test results between gender and the use of social media

	Twitter	Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Gender	Chi-square value	7.709	8.206	1.252	16.863	12.138
	Asymp.Sig. (p-value)	*0.103	*0.084	*0.870	*0.002	*0.016

*p > 0.05 = no significant relationship

4.6.2. Cross tabulations between Gender and the acquisition of news through social media use

Cross tabulation was done between the gender of the respondents and how often they acquire news from their social media platforms. The cross tabulation was done separately for each social media platform.

- Cross tabulation between Gender and the acquisition of news from Twitter

The majority of the female respondents (70.7%), along with the majority of the male respondents indicated that they do not get their news from twitter. 4.7% of the female respondents and 9.5% of the male respondents indicated that they get their news from twitter on a monthly basis; 8% of the female respondents and 9.5% of the male respondents indicated that they get their news from twitter on a weekly basis; 8.7% of the female respondents and 8.1% of the male respondents indicated that they get their news from twitter on a daily basis; and finally, 8% of the female respondents and 6.2% of the male respondents indicated that they get their news from twitter more than once per day.

Table 4. 15: Cross tabulation between Gender and the acquisition of news from Twitter

			News acquisition from Twitter					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	106	7	12	13	12	150
		% within The gender of respondents	70.7%	4.7%	8.0%	8.7%	8.0%	100.0%
		% within News acquisition from Twitter	42.9%	25.9%	37.5%	43.3%	48.0%	41.6%
	male	Count	141	20	20	17	13	211
		% within The gender of respondents	66.8%	9.5%	9.5%	8.1%	6.2%	100.0%
		% within News acquisition from Twitter	57.1%	74.1%	62.5%	56.7%	52.0%	58.4%
Total		Count	247	27	32	30	25	361
		% within The gender of respondents	68.4%	7.5%	8.9%	8.3%	6.9%	100.0%
		% within News acquisition from Twitter	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test produced an asymptotic significance value of 0.465, which is not less than 0.05, thereby indicating that there is no significant relationship between the gender of the respondents and the acquisition of news from Twitter.

- Cross tabulation between Gender and the acquisition of news from Facebook

For this platform, 30.7% of the female respondents and 27% of the male respondents indicated that they do not get news from Facebook. 11.3% of the female respondents as well as 9% of the male respondents indicated that they get news from Facebook on a monthly basis; 12% of the female respondents and 15.6% of the male respondents indicated that they get news from Facebook on a weekly basis; 24.7% of the female respondents and 29.4% of the male respondents indicated that they acquire news from Facebook on a daily basis; and finally, 21.3% of the female respondents and 19% of the male respondents indicated that they get their news from Facebook more than once per day.

Table 4. 16: Cross tabulation between Gender and the acquisition of news from Facebook

			News acquisition from Facebook					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	46	17	18	37	32	150
		% within The gender of respondents	30.7%	11.3%	12.0%	24.7%	21.3%	100.0%
		% within News acquisition from Facebook	44.7%	47.2%	35.3%	37.4%	44.4%	41.6%
	male	Count	57	19	33	62	40	211
		% within The gender of respondents	27.0%	9.0%	15.6%	29.4%	19.0%	100.0%
		% within News acquisition from Facebook	55.3%	52.8%	64.7%	62.6%	55.6%	58.4%
Total		Count	103	36	51	99	72	361
		% within The gender of respondents	28.5%	10.0%	14.1%	27.4%	19.9%	100.0%
		% within News acquisition from Facebook	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test was conducted and produced an asymptotic significance value of 0.615, which is not less than 0.05, indicating then that there is no significant relationship between the gender of the respondents and the acquisition of news from Facebook.

- Cross tabulation between Gender and the acquisition of news from Yahoo

The majority of the female respondents (88%) as well as the majority of the male respondents (86.7%) indicated that they do not get their news from Yahoo. 4.7% of the female respondents and 4.3% of the male respondents indicated that they get their news from Yahoo on a monthly basis; 2% of the female respondents and 3.8% of the male respondents indicated that they get their news from Yahoo on a weekly basis; 5.3% of the female respondents and 3.3% of the male respondents indicated that they get their news from Yahoo on a daily basis; and finally, none of the female respondents and 1.9% of the male respondents indicated that they acquire their news from Yahoo more than once per day.

Table 4. 17: Cross tabulation between Gender and the acquisition of news from Yahoo

			News acquisition from Yahoo					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	132	7	3	8	0	150
		% within The gender of respondents	88.0%	4.7%	2.0%	5.3%	0.0%	100.0%
		% within News acquisition from Yahoo	41.9%	43.8%	27.3%	53.3%	0.0%	41.6%
	male	Count	183	9	8	7	4	211
		% within The gender of respondents	86.7%	4.3%	3.8%	3.3%	1.9%	100.0%
		% within News acquisition from Yahoo	58.1%	56.3%	72.7%	46.7%	100.0%	58.4%
Total		Count	315	16	11	15	4	361
		% within The gender of respondents	87.3%	4.4%	3.0%	4.2%	1.1%	100.0%
		% within News acquisition from Yahoo	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test produced an asymptotic significance value of 0.323. This value being more than 0.05 indicate that there is no significant relationship between the gender of the respondents and the acquisition of news from Yahoo.

- **Cross tabulation between Gender and the acquisition of news from Pinterest**

The majority of the respondents, female (85.3%) and male (92.9%) indicated that they do not get their news from Pinterest. 6.7% of the female respondents and 2.8% of the male respondents indicated that they get their news from Pinterest on a monthly basis; 1.3% of the female of the respondents and 0.5% of the male respondents indicated that they get their news from Pinterest on a weekly basis; 4.7% of the female respondents and 1.9% of the male respondents indicated that they acquire their news from Pinterest on a daily basis; and finally, 2% of the female respondents, along with 1.9% of the male respondents indicated that they get their news from Pinterest more than once per day.

Table 4. 18: Cross tabulation between Gender and the acquisition of news from Pinterest

			News acquisition from Pinterest					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	128	10	2	7	3	150
		% within The gender of respondents	85.3%	6.7%	1.3%	4.7%	2.0%	100.0%
		% within News acquisition from Pinterest	39.5%	62.5%	66.7%	63.6%	42.9%	41.6%
	male	Count	196	6	1	4	4	211
		% within The gender of respondents	92.9%	2.8%	0.5%	1.9%	1.9%	100.0%
		% within News acquisition from Pinterest	60.5%	37.5%	33.3%	36.4%	57.1%	58.4%
Total		Count	324	16	3	11	7	361
		% within The gender of respondents	89.8%	4.4%	0.8%	3.0%	1.9%	100.0%
		% within News acquisition from Pinterest	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test conducted indicated an asymptotic significance value of 0.168, which is greater than 0.05, and thereby indicating that there is no significant relationship between the gender of the respondents and the acquisition of news from Pinterest.

- **Cross tabulation between Gender and the acquisition of news from LinkedIn**

The majority of the female respondents (90%) as well as the majority of the male respondents (79.5%) indicated that they do not use LinkedIn to get their news. 2.7% of the female respondents and 6.2% of the male respondents indicated that they get their news from LinkedIn on a monthly basis; 2.7% of the female respondents and 8.6% of the male respondents indicated that they get their news from LinkedIn on weekly basis; 4% of the female respondents and 4.8% of the male respondents indicated that they get their news from LinkedIn on a daily basis; and finally, 0.7% of the female respondents and 1% of the male respondents indicated that they get their news from LinkedIn more than once per day.

Table 4. 19: Cross tabulation between Gender and the acquisition of news from LinkedIn

			News acquisition from LinkedIn					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The gender of respondents	Female	Count	135	4	4	6	1	150
		% within The gender of respondents	90.0%	2.7%	2.7%	4.0%	0.7%	100.0%
		% within News acquisition from LinkedIn	44.7%	23.5%	18.2%	37.5%	33.3%	41.7%
	male	Count	167	13	18	10	2	210
		% within The gender of respondents	79.5%	6.2%	8.6%	4.8%	1.0%	100.0%
		% within News acquisition from LinkedIn	55.3%	76.5%	81.8%	62.5%	66.7%	58.3%
Total		Count	302	17	22	16	3	360
		% within The gender of respondents	83.9%	4.7%	6.1%	4.4%	0.8%	100.0%
		% within News acquisition from LinkedIn	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The chi-square test indicated an asymptotic significance value of 0.071, which is greater than 0.05, indicating that there is no significant relationship between the gender of the respondents and the acquisition of news from LinkedIn.

- Chi-square test between Gender and the acquisition of news from social media

The chi square test was conducted along with the cross tabulations between the gender and the acquisition of news from social media. The test was done separately for each of the social platforms. The chi square test results for most of the platforms showed that there is no significant

relationship gender and the acquisition of news from social media. This then indicates that there is no difference between males and females on how they acquire news from social media.

Table 4. 20: Chi-square test results between gender and the acquisition of news from social media

	Twitter	Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Gender	Chi-square value	3.587	2.668	4.672	6.442	8.638
	Asymp. Sig. (p-value)	*0.465	*0.615	*0.323	*0.168	*0.071

*p > 0.05 = no significant relationship

- Chi-square test between the use of social media and news acquisition from social media

A chi-square test was conducted to establish the level of significance of the relationship between students' use of social media and their acquisition of news from social media. Table 4.21 shows that there is significant relationship between the use of social media platforms and the acquisitions of news from those platforms.

Table 4. 21: Chi-square test between social media use and the acquisition of news from social media

	Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Chi-square value	1032.278	691.066	693.154	685.511	696.113
Asymp. Sig. (p-value)	*0.000	*0.000	*0.000	*0.000	*0.000

*p < 0.05 = significant relationship

4.6.3. Chi-square tests between the constructs used in the study

There were six constructs used in this study. They are as it follows: trust in social media as a news source, social influence and trust in news from social media, fact check, social media security and attitude towards news from social media. In order to find whether there are significant relationships between the constructs, a series of chi-square tests were performed; and the results of the chi-

square tests showed that there are significant relationships (having $p < 0.05$) between some of the constructs.

The table below shows that the items of in the construct ‘social influence’ are significantly related to the items of the construct ‘trust in social media as a news source’. It can then be implied that students’ social influences have an impact on their trust in social media as a news source.

The items of the construct ‘social influence’ are the following:

D1: I would consider social media as a news source if my friends/family use it as a source of news.

D2: I subscribe to news pages that my friends or family recommend to me on social media.

D3: I repost interesting news that my friends or family have posted on social media.

The items of the construct ‘trust in social media as a news source’ are as follows:

C1: I believe that social media is a reliable source for news acquisition.

C2: I would recommend a friend to use social media as a source of information.

C3: I subscribe to news sites that send interesting adverts on social media.

C4: I would recommend my friends to subscribe to news pages that I have subscribed to.

Table 4. 22: Chi-square test result between social influence and the trust in social media as a news source

		C1	C2	C3	C4
D1	Chi-square value	227.332	233.617	98.012	117.262
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000	*0.000
D2	Chi-square value	96.247	137.390	100.326	144.602
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000	*0.000

D3	Chi-square value	66.342	77.224	70.217	53.260
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000	*0.000

*p < 0.05 = significant relationship

From the next table, it is seen that few items of the construct ‘Social media security’ do not have a significant relationship with a few items of the construct ‘Trust in social media as a news source’. But most of the items in the ‘Social media security’ construct have significant relationships with most of the items of the ‘Trust in social media as a news source’ construct, therefore, significant relationships do exist between social media security and trust in social media as a news source.

The items of the construct ‘Social media security’ are the following:

H1: Social media bots are implemented to ensure the security of social media applications.

H2: I believe social media bots are implanted to prevent people from reading fake news.

H3: Social media bots are used to spy on social media users.

H4: Social media bots are put in place to learn people interests from pages they access through social media.

H5: Social media bots provide users with news that are in line with their interests.

H6: I am aware of the security settings that are present on social media applications.

H7: I pay attention to the security settings of the social media applications that I use.

H8: I understand the importance of implementing security settings on my social media applications.

H9: I learn about the security measures that are present on social media applications before I can implement them.

H10: I have security settings implemented on most of my social media applications.

Table 4. 23: Chi-square test result between social media security and trust in social media as a news source

		C1	C2	C3	C4
H1	Chi-square value	93.857	46.528	59.784	40.087
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000	*0.001
H2	Chi-square value	46.204	64.864	32.488	39.319
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.009	0.001
H3	Chi-square value	28.360	29.449	18.210	28.861
	Asymp. Sig. (p-value)	*0.029	*0.021	*0.312	*0.025
H4	Chi-square value	30.675	33.032	29.722	50.435
	Asymp. Sig. (p-value)	*0.015	*0.007	*0.019	*0.000
H5	Chi-square value	52.412	52.013	34.156	36.743
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.005	*0.002
H6	Chi-square value	36.716	37.926	34.577	27.978
	Asymp. Sig. (p-value)	*0.002	*0.002	*0.005	*0.032
H7	Chi-square value	51.680	47.198	25.161	43.623
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.067	*0.000
H8	Chi-square value	33.039	41.996	38.657	53.651
	Asymp. Sig. (p-value)	*0.007	*0.000	*0.001	*0.000
H9	Chi-square value	49.162	42.025	34.376	51.505
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.005	*0.000

H10	Chi-square value	22.588	25.167	20.663	40.404
	Asymp. Sig. (p-value)	*0.125	*0.067	*0.192	*0.001

*p < 0.05 = significant relationship

Table 4.24 shows the results for chi-square conducted between items of the construct of ‘social media security’. The test was performed between the respondents’ knowledge of social media bots and the security measures of their social media applications. The items in the two parts are significantly related to each other. Therefore, it can be said that the knowledge of social media bots has an impact on the importance that one places on the security of their social media applications.

Table 4. 24: Chi-square test between the knowledge in social media bots and social media security

		H1	H2	H3	H4	H5
H6	Chi-square value	71.778	50.274	38.887	94.720	153.380
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.001	*0.000	*0.000
H7	Chi-square value	46.618	45.626	37.927	64.788	136.034
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.002	*0.000	*0.000
H8	Chi-square value	36.791	30.145	45.555	104.346	200.484
	Asymp. Sig. (p-value)	*0.002	*0.017	*0.000	0.000	*0.000
H9	Chi-square value	45.315	52.483	38.425	36.483	70.062
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.001	*0.002	*0.000
H10	Chi-square value	31.545	30.955	29.212	80.004	155.658
	Asymp. Sig. (p-value)	*0.011	*0.014	*0.023	*0.000	*0.000

*p < 0.05 = significant relationship

In table 4.25, it is seen that all the items of the construct ‘Trust in social media as a news source’ have significant relationships with all the items of the construct ‘Trust in news from social media’. It can then be implied that students’ trust in social media platforms as news sources has a positive impact on the trust that they have in the news from social media.

The items of the construct ‘trust in news from social media’ are:

E1: I do not trust any news that I come across on social media.

E2: The more people like and share a news item on social media, the more I trust it.

E3: My trust in social media news depends on the comments that it receives from other people.

Table 4. 25: Chi-square test result between trust in social media as a news source and trust in news from social media

		E1	E2	E3
C1	Chi-square value	56.678	48.244	40.545
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.001
C2	Chi-square value	59.859	60.419	33.054
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.007
C3	Chi-square value	54.538	38.604	62.071
	Asymp. Sig. (p-value)	*0.000	*0.001	*0.000
C4	Chi-square value	39.118	55.091	50.361
	Asymp. Sig. (p-value)	*0.001	*0.000	*0.000

*p < 0.05 = significant relationship

Table 4.26 shows that one item of the construct ‘trust in news from social media’ is not significantly related to the item of the construct ‘fact check’. But most of the items in the construct ‘trust in news from social media’ have significant relationships with the item of the construct ‘fact

check’. Hence, significant relationship exists between fact check and the trust in social media news. This then implies that the trust that students have in the news that they acquire from social media can be related with the results acquired from performing fact check.

The item of the construct ‘fact check’ is:

F1: I often check other news channels to verify the news that I read on my social media pages.

Table 4. 26: Chi-square test between fact check and trust in news from social media

		E1	E2	E3
F1	Chi-square value	22.214	48.859	67.798
	Asymp. Sig. (p-value)	*0.136	*0.000	*0.000

*p < 0.05 = significant relationship

Table 4.27 presents the results of the chi-square test conducted between the construct ‘trust in news from social media’ and the construct ‘attitude towards news from social media’. The results show that the items of the two constructs have significant relationships with one another. Therefore, it can be said that the attitude that students present towards the news that they read on social media is determined by the trust that they have in it. The items of the construct ‘behavior towards news from social media’ are:

G1: If I am sure that the news I read on social media is true, I share it so that my social media followers can also read it.

G2: If I find some news interesting, I share it on my social media without checking its veracity.

G3: If I think that the news is fake, I do not share it no matter how interesting it is.

G4: I do not share news on social media, even if I am convinced that it is true.

Table 4. 27: Chi-square test between trust in news from social media and behavior towards news from social media

		E1	E2	E3
G1	Chi-square value	44.405	101.849	46.202
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000
G2	Chi-square value	45.594	51.220	86.435
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000
G3	Chi-square value	54.328	34.794	39.416
	Asymp. Sig. (p-value)	*0.000	*0.004	0.001
G4	Chi-square value	99.895	34.451	41.501
	Asymp. Sig. (p-value)	*0.000	*0.005	*0.000

*p < 0.05 = significant relationship

Table 4.28 presents the results of the chi-square test conducted between the construct ‘trust in news from social media’ and the construct ‘social influences’. The results show that the items of the two constructs have significant relationships with one another. Therefore, it can be concluded that students’ social influences have an impact on the trust that they have in the news that they acquire from social media.

Table 4. 28: Chi-square test between trust in news from social media and social influences

		D1	D2	D3
E1	Chi-square value	59.734	67.661	40.236
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.001
E2	Chi-square value	56.723	74.072	70.258
	Asymp. Sig. (p-value)	*0.000	*0.000	*0.000
E3	Chi-square value	37.052	63.583	45.622
	Asymp. Sig. (p-value)	*0.002	*0.000	*0.000

*p < 0.05 = significant relationship

Table 4.29 below presents the results of the chi-square test conducted between the construct ‘fact check’ and the construct ‘attitude towards news from social media’. The results show that the items of the two constructs have significant relationships with one another. Thus, it can be said that the attitude that students present towards the news that they acquire from social media is influenced by the results acquired from performing fact checks.

Table 4. 29: Chi-square test between fact check and behavior towards news from social media

		G1	G2	G3	G4
F1	Chi-square value	39.871	34.228	54.406	30.314
	Asymp. Sig. (p-value)	*0.001	*0.005	*0.000	*0.016

*p < 0.05 = significant relationship

4.7. Correlation analysis

Further correlation analysis was conducted to demonstrate the relationships between the constructs used in this study.

Table 4. 30: Correlation between trust in social media as news source and trust in social media as a news source

Correlations					
		I believe that social media is a reliable source for news acquisition	I would recommend a friend to use social media as a source of information	I subscribe to news sites that send interesting adverts on social media	recommend my friends to subscribe to news pages that i have subscribed to
I would consider social media as	Pearson Correlation	.582**	.546**	.294**	.329**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	362	362	362	362
I subscribe to news	Pearson Correlation	.355**	.353**	.334**	.410**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	361	361	361	361
I repost interesting news that my	Pearson Correlation	.309**	.350**	.316**	.256**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	362	362	362	362
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 4.30 shows that there is a positive correlation between the items of the constructs ‘Trust in news from social media’ and ‘trust in social media as a news source’. The items are highly statistically significantly related to one another. From this a conclusion can be drawn by saying that the trust that students have in the news that they acquire from social media is influenced by the trust they have in social media as a news source. If the trust in social media as a news source increases, then the trust in the news that they acquire from social media increase as well.

Table 4. 31: Correlation between trust in social media as news source and social media security

		Correlations				
		I am aware of the security settings that are present on social media applications	I pay attention to the security settings of the social media applications that I use	I understand the importance of implementing security settings on my social media applications	I learn about the security measures that are present on social media applications before I can implement them	I have security settings implemented on most of my social media applications
I believe that social media is a reliable source for news	Pearson Correlation	.187**	.218**	.121*	0.100	.119*
	Sig. (2-tailed)	0.000	0.000	0.021	0.058	0.023
	N	362	362	362	362	362
I would recommend a friend to use social media as a source of information	Pearson Correlation	.108*	.233**	.149**	.178**	0.103
	Sig. (2-tailed)	0.041	0.000	0.004	0.001	0.051
	N	362	362	362	362	362
I subscribe to news sites that send interesting adverts on social media	Pearson Correlation	0.082	.138**	.145**	.128*	0.050
	Sig. (2-tailed)	0.118	0.009	0.006	0.015	0.343
	N	362	362	362	362	362
I would recommend my friends to subscribe to news pages that i have	Pearson Correlation	0.020	.149**	.132*	.182**	.113*
	Sig. (2-tailed)	0.699	0.004	0.012	0.000	0.031
	N	362	362	362	362	362

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.31 shows that there is a slight positive correlation between the items of the constructs ‘Social media security’ and ‘Trust in social media as a news source’, and most of the items of the two constructs are significantly related to one another. In other words, if students implement more security measures on their social media accounts, then their trust in social media as news source increase slightly.

Table 4. 32: Correlation between the trust in news from social media and social influence

Correlations				
		I do not trust any news that i come across on social media	The more people like and share a news item on social media, the more I trust it	My trust in social media news depends on the comments that it receives from other people
I would consider social media as a news source if my friends/family	Pearson Correlation	-.206**	.302**	.176**
	Sig. (2-tailed)	0.000	0.000	0.001
	N	362	362	362
I subscribe to news pages that my friends or family recommend to me on social	Pearson Correlation	-.134*	.342**	.273**
	Sig. (2-tailed)	0.011	0.000	0.000
	N	361	361	361
I repost interesting news that my friends or family have	Pearson Correlation	-.152**	.177**	.182**
	Sig. (2-tailed)	0.004	0.001	0.001
	N	362	362	362
** . Correlation is significant at the 0.01 level (2-tailed).				
* . Correlation is significant at the 0.05 level (2-tailed).				

Table 4.32 shows that there is a positive correlation between the items of the constructs ‘Social influence’ and ‘Trust in news from social media’. There exists also a strong statistical significant relation between the items of the two constructs. This then concludes that students are positively influenced into trusting news from social media by their friends and family.

Table 4. 33: Correlation between the trust in news from social media and the trust in social media as a news source

Correlations				
		I do not trust any news that i come across on social media	The more people like and share a news item on social media, the more I trust it	My trust in social media news depends on the comments that it receives from other people
I believe that social media is a reliable source for	Pearson Correlation	-.247**	.254**	.217**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	362	362	362
I would recommend a friend to use social media as a source of information	Pearson Correlation	-.259**	.262**	.177**
	Sig. (2-tailed)	0.000	0.000	0.001
	N	362	362	362
I subscribe to news sites that send interesting adverts on	Pearson Correlation	-.112*	.168**	.210**
	Sig. (2-tailed)	0.033	0.001	0.000
	N	362	362	362
I would recommend my friends to subscribe to news pages that i have	Pearson Correlation	-0.093	.196**	.139**
	Sig. (2-tailed)	0.079	0.000	0.008
	N	362	362	362
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 4.33 above shows that the items of the constructs ‘Trust in social media as news source’ and ‘trust in news from social media’ have positive correlations, and they have a strong significant relationship. In other words, if the trust in social media as a news source increases, then the trust in the news acquired from social media will increase as well.

Table 4. 34: Correlation between fact check and the trust in news from social media

Correlations				
		I do not trust any news that i come across on social media	The more people like and share a news item on social media, the more I trust it	My trust in social media news depends on the comments that it receives from other people
I often check news channels to verify the news that I read on my social media pages	Pearson Correlation	0.003	0.091	.124*
	Sig. (2-tailed)	0.960	0.085	0.019
	N	362	362	362
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 4.34 shows that there is a very small correlation between the items of the constructs ‘Fact check’ and ‘Trust in news from social media’. The table also shows that there is no significant relationship between the items of the two constructs. In conclusion, the results that students get from performing fact check does not increase the trust that they have in that news.

Table 4. 35: Correlation between the trust in news for social media and the behavior towards news from social media

Correlations				
		I do not trust any news that i come across on social media	The more people like and share a news item on social media, the more I trust it	My trust in social media news depends on the comments that it receives from other people
If I am sure that the news i read on social media is true, I share it so that my social media followers can also read it	Pearson Correlation	-.160**	.257**	.152**
	Sig. (2-tailed)	0.002	0.000	0.004
	N	362	362	362
If i find some news interesting, I share it on my social media without checking its veracity	Pearson Correlation	-.118*	.215**	.309**
	Sig. (2-tailed)	0.025	0.000	0.000
	N	362	362	362
If I think that the news is fake, I do not share it no matter how interesting it is	Pearson Correlation	0.051	-0.049	-0.030
	Sig. (2-tailed)	0.329	0.348	0.564
	N	362	362	362
I do not share news on social media, even if I am convinced it is true	Pearson Correlation	.271**	-.113*	-0.095
	Sig. (2-tailed)	0.000	0.032	0.070
	N	362	362	362
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 4.35 shows that the items of the constructs ‘Trust in news from social media’ and ‘Behaviour towards news from social media’ have slight correlations, most of them have positive correlations and a few of them have negative correlations. Most of the items of the two constructs are significantly related to one another. In conclusion, it can be said that the trust in news from social media has an influence on the behaviour that students presents after reading news from social media.

Table 4. 36: Correlation between fact check and the behavior towards news from social media

Correlations					
		If I am sure that the news i read on social media is true, I share it so that my social media followers can also read it	If i find some news interesting, I share it on my social media without checking its veracity	If I think that the news is fake, I do not share it no matter how interesting it is	I do not share news on social media, even if I am convinced it is true
I often check news channels to verify the news that I read on my social media pages	Pearson Correlation	0.085	-0.077	.177**	-.118*
	Sig. (2-tailed)	0.108	0.146	0.001	0.025
	N	362	362	362	362
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Table 4.36 shows that the item of the construct ‘Fact check’ has slight positive correlation with some of the items of the construct ‘Behavior towards news from social media’. The item of the construct ‘Fact check’ has slight negative correlation with some of the items of the construct ‘Behavior towards news from social media’. The table also shows that most of the items of the construct ‘Behavior towards news from social media’ are not significantly related to the item of the construct ‘Fact check’. To conclude, it can be said that the result that students get from performing fact check on the news they acquire from social media does not influence the behavior that they have towards that news after reading it.

4.8. Conclusion

This chapter presented the results from the analysis of the data acquired from the respondents. A total of 97.8% response rate was obtained, and the majority of the respondents were male, but also most of the respondents were between the age of 18 and 21. Descriptive statistics were presented in form of graphs and tables, while cross tabulations and chi-square tests were used to present inferential statistics. These statistics’ inferences are presented at the end of each section. The following chapter provides a presentation of the interpretation of the results obtained in this chapter with reference to the literature, in order to achieve the research objectives.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1. Introduction

The previous chapter presented the analysis of the responses obtained from the respondents. The analysis included the descriptive and inferential statistics. This chapter presents the discussion of the results obtained from the analysis done in the previous chapter in line with the objectives of this study and in relation to the literature. The chapter also presents the implications of the results obtained in this study. The chapter finally presents the alignment of the results obtained in this study with the conceptual framework that was used to frame the study.

5.2. Alignment of the results with the research objectives

In chapter one, it has been stated that the research objectives of this study as it follows:

- To understand the perception that students in South Africa hold on the diffusion of news on social media
 - To discover the level to which they consider social media platforms as a reliable source for news acquisition.
 - To discover the level of trust that students put in the news that they acquire from social media platforms.
- To uncover the behaviour that students in South Africa present towards the news that they acquire from social media
 - To discover the importance that they attribute to the verification of the news that they acquire from social media.
 - To discover their involvement in the propagation of fake news on social media platforms.
- To discover the understanding that students have on the importance of their social media applications' security against malware.
- To provide a list of recommendations from previous studies that will help students to be more sceptical of the news that they get through social media.

5.2.1. Level of consideration of social media as a news source

In this study, the level of consideration of social media as a news source simply refers to the level of trust that students have in their social media to the extent that they consider getting their news

from social media. To establish that level, it is suitable to first establish students' use of social media by finding out how frequently they log onto their social media applications and how often they get news from social media. It is also necessary to establish how the respondents' trust in social media as a news source might be influenced by the people around them.

The results obtained in this study showed that 35.9% of the respondents indicated that they use twitter and 8.3% of them admitted to login to it more than once per day; 81.2% of the respondents indicated that they use Facebook, 29.6% of them login to Facebook more than once per day; 15.7% of the respondents use Yahoo, Pinterest is used by 18% of the respondents and LinkedIn is use by 26.5% of the respondents (Figure 4. 5). McGrew et al. (2017a) stated that, on a daily basis, young adults spend an average of 9 hours online. For this reason, there is a high probability that students learn about the world through their social media platforms than through traditional media sources. Alvarez (2016) continued and said that nowadays many people prefer to get news from social media as opposed to reading newspapers or watching the news channels. Reports from a study conducted by the Pew Research Center showed that 62 percent of adults in America are getting news from social media (Banks, 2017) and in 2016, 40 percent of young adults in America said that they get their news from Facebook (Burkhardt, 2017). In this study, the results showed that 31.8% of the respondents said that they acquire their news from Twitter, 71.5% of the respondents said that they get their news from Facebook (27.3% of them daily and 20.2% of them more than once per day), 12.7% of the respondents said that they get their news from Yahoo, 10.2% of the respondents get their news from Pinterest and 16.1% of the respondents get their news from LinkedIn (Figure 4. 6). From these results it can be concluded that the social media platforms that are more used for news acquisition are Facebook and Twitter. According to Kumpel et al. (2015), social media, Facebook and Twitter in particular, exposes some people to news that they could not have seen not being social media users.

In addition to this, the chi square results that were obtained from the cross tabulation between the use of social media and the acquisition of news through social media showed that there exists a significant relationship ($P < 0.05$) between the use of social media and the acquisition of news through social media. Therefore, it can be said that students who use social media applications are likely to get their news from social media. According to Messing and Westwood (2014), the relationship between social media and news consumption are a fundamental part of the media

environment. Social media shapes the media environment in two ways. Firstly, it presents content from various providers in one place that people do not have a choice but to get news from social media, they can select stories from what is presented to them. Secondly, social media allows people to use endorsements to contribute in the selection of content even when visiting traditional news websites directly. Social recommendations appear on the originating website of the story. Most of the news providers present lists for the popularity of their stories and these lists are more noticeable in smartphones applications. The news providers attach to these lists the stories that have been recommended by the friends of users. This then enhances the ability of people to select content that are relevant to them when presented with a large number of stories to choose from.

Further results from the analysis of the answers from the respondents showed that 55.3% of the respondents indicated that they believe that social media is a reliable source for the acquisition of news and 48.4% of the respondents admitted to subscribing to news sites that send interesting adverts on social media (Figure 4. 7). This indicates how trusting the students are of their social media platforms. They are so trusting that 52.7% of the respondents said that they would recommend their friends to use social media as a news source and 52.2% of the respondents indicated that they would recommend their friends to subscribe to news sites that send interesting adverts on social media (Figure 4. 7). According to Turcotte, York, Irving, Scholl, and Pingree (2015), when people are recommended by their real life social media friends to read news stories, they are likely to consider the news source in the future. Especially recommendations from the people that are considered to be quality opinion leaders. The results from this study further showed that 41.8% of the respondents indicated that they would subscribe to the news channels that their friends and family would recommend to them through social media. In addition to this, 44.7% of the respondents indicated that they would consider social media as a news source if their friends or family use it (Figure 4. 8). In general, people have a tendency to trust their social media friends for advice and recommendations. For the most part, students have a tendency to get their news from the list of news that their social media friends have already interacted with. Furthermore, the news sources that they trust are the sources that have been suggested to them by their friends (Burkhardt, 2017).

Social media platforms are used by many people to spread ideas, knowledge and opinions to other people. This way social media users are influencing each other. It is not hard to find information

on the influence that users have on each other. On twitter, for example, the influence that a user A has on a user B can be found by simply counting the number of times user B has retweeted user A (Romero, Galuba, Asur, & Huberman, 2011). The results from the analysis done in this study showed that 46.7% of the respondents indicated that they repost content that their friends or family have posted on social media (C in Figure 4. 8). The chi square test results showed that significant relationship ($P < 0.05$) exists between students' social influences and the trust that they have in social media as a news source. Indicating that students are more likely to consider social media platforms as news sources if their friends and family are using it as such.

5.2.2. Level of trust in the news from social media

The increase in the variety of news sources has resulted in the drift from mainstream media. Research has shown that the public trust in news institutions has been dropping for the past decade. The ratings for credibility from the public has decrease for outlets of all types. But when news outlets are having a hard time retaining audiences, social media is offering possibilities for news acquisition (Turcotte et al., 2015). In this study, 27.3% of the respondents indicated that they do trust any news that they come across on social media (A in Figure 4. 9).

According to Turcotte et al. (2015), the attention that a news item receives is influenced by the perceived trust that people have in that news. Research shows that people are attentive and trusting of the news if they trust the person or organization reporting it. In this study, the chi square test results between the constructs 'trust in social media as a news source' and 'trust in news from social media' showed that there exist a significant relationship ($P < 0.05$) between the two factors.

Furthermore, research has found that people perceive news that has been shared by their friends on social media as more trustworthy than the news that they acquire from outlets. News sharing is reaching a significant number of people on social media and it is done in a way that people are getting news from their peers, they are depending on each other to get information (Turcotte et al., 2015). According to Burkhardt (2017), when students reach high school, they tend not to rely on the expertise of their teachers anymore but of their friends. This then causes a problem in term of fake news consumption because a big number of students get their news solely from social media. It is important to keep in mind that young adults can share news on social media just because of a picture or headline that has caught their attention, and not for the actual content of the news article.

The results obtained from the chi square test conducted between the trust in news obtained from social media and the social influences showed that there exists a significant relationship between the two constructs. This relationship could then indicate that students trust in news from social media is influenced by their family and friends, if a student's friends or family members believe that some news content from social media is true, they are likely to also believe that the news is true. According to Burkhardt (2017) on social media, when a user likes or shares a news content, it gives their followers the impression that the news is trustworthy because it has been shared by someone they trust. This is also due to the fact that people and their social media friends or followers share the same beliefs. The share of articles on social media is usually done without knowing that the article shared might have been generated by bots which were influenced by the clicks, likes and shares from the users' social media pages. Young adults are still not aware that the information they see on their social media newsfeeds can be influenced by non-human actors, precisely bots (Burkhardt, 2017). Bots are computer algorithms that produce content automatically and interact with social media users, with the aim to emulate and possibly modify their behavior. They have become sophisticated to the extent that differentiating them from humans is now difficult (Grimme et al., 2017). The results obtained in this study indicated that students do not have sufficient knowledge on the concepts of social media bots: 38.7% of the respondents indicated that social media bots are implemented to ensure the security of social media applications, 35.1% of respondents indicated that social media bots are implanted to prevent people from reading fake news, 24.6% of the respondents indicated that social media bots are not used to spy on social media users, 7.7% of the respondents indicated that social media bot bots are not used to learn people interests from pages the access through social media and 7.5% of the respondents indicated that social media bots do not provide users with news that are in line with their interests (Figure 4. 12). According to Burkhardt (2017), bots are used, in social media, to collect information that might be of interest to a particular user. They crawl the internet to find the information that is similar to what the user has seen before. The information is then sent to the user who in return might be interested. The unfortunate fact is that bots are not interested in the accuracy of the information.

Social bots are programmed to search on the internet for information that is similar to what a user has clicked on, liked or shared, and then inject the information into what the user sees. The bots can also send the information to the followers of the user. This resulting in the user and their friends

seeing the same array of information, which is the information they already agree with. An information bubble is then created, giving an impression that the likes, shares and comments that the information receives are those of most people. All because the people in the information bubble have not been exposed to anything contrary (Grimme et al., 2017). The results from this study show that 30.4% of the respondents indicated that they trust more the news they come across on social media if more people like and share it, and 32.8% of the respondents indicated that the comments that a news item receives on social media impact their trust in the news (Figure 4. 9). According to Burkhardt (2017), if people could stop counting on the number of clicks, likes, shares and comments that a story receives; the spread of fake news on social media platforms can be limited. If social media users were aware of the fact that the popularity of a news content is not enough to consider the news trustworthy, they would be considerate of more than just the popularity ratings before they can trust any news they read on social media.

There is an increasing number of fact checking sites whose primary task is to investigate the trustworthiness of stories. These sites should be taken into consideration before people can consider trusting the news that they acquire from social media platforms. 81.8% of the respondents in this study indicated that they do check other news channels to verify the news they read on social media (Figure 4. 10). Having confirmation from other sources that the news acquired from social media platforms is trustworthy increases the trust that one has in that news. In addition to this, the chi square test results between the constructs ‘fact check’ and the ‘trust in the news from social media’ showed that there exists a significant relationship between the two constructs.

5.2.3. The importance of social media applications’ security

Social bots have the ability to use spam to influence and annoy social media users. Most people do not have the knowledge of how the technology that they are using functions or what physical principles control its operations (Burkhardt, 2017). The results from this study showed that 11.1% of the respondents indicated that they are not aware of the security settings that are present on their social media applications, 15.5% of the respondents indicated that they do not pay attention to the security settings of the social media applications that they use and 21.3% of the respondents indicated that they do not understand the importance of implementing security settings on social media applications (Figure 4. 13). One of the many types of social bots are spam bots. Their job is to reach a large number of people in order to spread information, adverts or phishing links. They

are used by individuals, groups of people or companies to communicate a certain message (Grimme et al., 2017). Knowing that one of the many tasks of social bots is to collect information from social media users and push information to the accounts that meet given criteria, and that social bots are likely to be part of one's social media list of followers or one's followers' followers, it is wise to implement security measures on all social media applications in order to avoid any type of spam malware that can be sent by the social bots that are part of the users' following to influence or annoy. By doing this, they can also avoid other unwanted information sent to them by social bots. In this study, 71.3% of the respondents indicated that they have security measures implemented on most of their social media applications, but only 55.8% of the respondents indicated that they learn about the security measures before implementing them (Figure 4. 13).

5.2.4. The involvement of students in the propagation of news on social media

According to Stukal et al. (2017), the creation of news headlines that are not necessarily linked to the news content is one of the primary tasks of social bots. Humans support the work of bots by liking and sharing the information they received from bots, most of the times without knowing the actual content of what they are sharing with their friends (McGrew et al., 2017a). One of the reasons for the spread of fake news on social media is that people share news without knowing the content beyond headlines or having assurance that the content might be true (Burkhardt, 2017). In this study, 25.5% of the respondents indicated that they share news on social media even if they are not sure of the veracity of the news (B in Figure 4. 11). Knowing that people like to share news content, social media platforms developers designed the platforms with sharing services that can allow users to validate news content by a simple click. Nowadays, those services constitute an important part of news websites (Messing & Westwood, 2014). According to Burkhardt (2017), news headlines are meant to capture the attention of readers and to provoke a strong reaction. The simplest reason why people fall for fake news to the point of sharing it according to Reid and Gibson (2014), is that it is more interesting than real news. In addition to this, 12.5% of the respondents in this study indicated that they would share interesting news even if they think that the news is fake. But 49.7% of the respondents indicated that they only share news on social media after establishing that the news is true. However, 30.4% of the respondents indicated that they do not share news on social media even if they are sure that the news is true (Figure 4. 11).

Consulting fact checking sites before one can share news on social media with others is a good practice that should ideally become a habit (Burkhardt, 2017). The chi square test results showed that a significant relationship exists between fact check and the attitude presented after reading news from social media. It can then be said that the result obtained from performing fact check has an impact on whether the students will share the news. A regular use of fact checking sites before sharing information can help decrease and eventually stop the spread of fake news.

5.3. Alignment of the results with the conceptual framework

- Relations with the trust in social media as news source

The conceptual framework used in this study has six constructs and chi square tests were conducted to evaluate if there exist significant relationships between the constructs. In the description of the framework, it was said that ‘the trust in social media as a news source’ is influenced by the ‘social media security’ that students have implemented as well as their ‘social influences’. The chi square test performed between the constructs ‘social media security’ and ‘trust in social media as a news source’ indicated that there exists significant relationship between the two constructs (Table 4.16). The results also showed that there is significant relationship between the constructs ‘social influences’ and ‘trust in social media as news source’ (Table 4.15). Furthermore, the results from the analysis of the collected data showed that 44.7% of the respondents indicated that they would consider social media as a news source if their friends or family use it as a source of news (Figure 4.8).

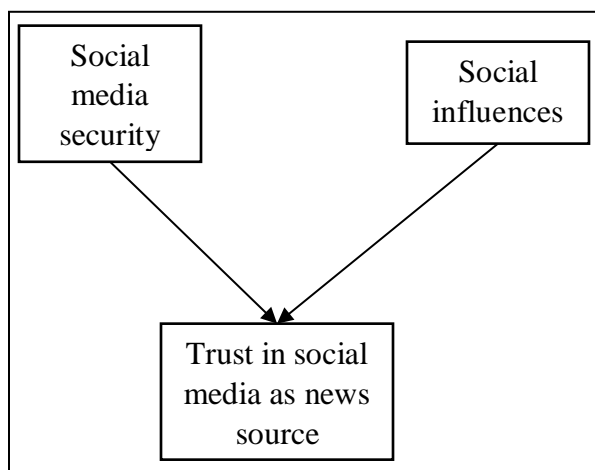


Figure 5. 1: Relations with the trust in news from social media (Bahige, 2019)

- **Relations with the trust in news from social media**

In the description of the conceptual framework, it was said that the ‘trust in news from social media’ is influenced by the ‘trust in social media as news source’, ‘social influences’ and results from ‘fact check’. The results from the chi square test performed between the constructs showed that all the items of the constructs ‘trust in social media as news source’ and ‘trust in news from social media’ are significantly related (Table 4. 18). The results from the chi square test also showed that there exist significant relationship between the constructs ‘social influences’ and ‘trust in news from social media’. Therefore, it can be concluded that the attitudes that students have in regards with the news they acquire from social media is impacted by their friends and families. The results from the analysis performed in this study showed that 46.7% of the respondents indicated that they repost interesting news that their friends or family have posted on social media (C in Figure 4. 8). According to Turcotte et al. (2015) people perceive news that has been shared by their friends on social media as more trustworthy than the news that they acquire from outlets. Furthermore, the results from the chi square test between the ‘trust in news from social media’ and ‘fact check’ showed that significant relationship relationships exist between all the items of the two constructs.

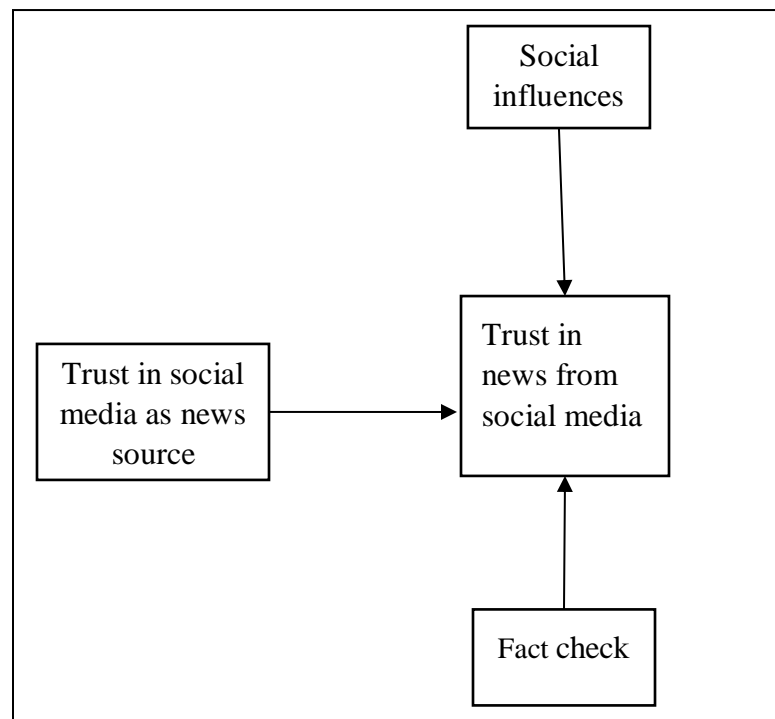


Figure 5. 2: Relations with the trust in news from social media (Bahige, 2019)

- **Relations with the attitude after reading news from social media**

The ‘attitude after reading news from social media’ is influenced by the ‘trust in news from social media’ and the results obtained from ‘fact check’. The chi square test conducted showed that all the items of the constructs ‘trust in news from social media’ and ‘attitude after reading news from social media’ are significantly related to one another, therefore significant relationship exists between the two constructs (Table 4.20). This then concludes that the attitude that students have towards the news they acquire from social media is influenced by the trust that they have in the news. The chi square test also indicated that most of the items of the construct ‘attitude after reading news from social media’ are significantly related to the item of the construct ‘fact check’ (Table 4.22). Concluding then that the results acquired from performing fact check on that news they read on social media have an influence on the attitude that students presents towards the news. Other results from the analysis showed that 49.7% of the respondents indicated that they only share news on social media after establishing that the news is true (Figure 4.11).

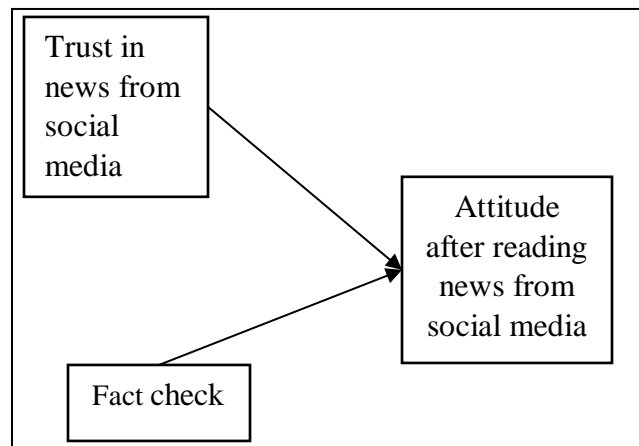


Figure 5. 3: Relations with the attitude after reading news from social media (Bahige, 2019)

2.4. Conclusion

This chapter gave a presentation of how the results obtained in this study were used to achieve the objectives of the study. The research objectives of this study were outlined and the results corresponding to each of them were presented. The main objective of this study was to find the perception that students in South Africa have on the acquisition of news from social media platforms. As regarded these perceptions, students indicated that they trust that social media platforms are reliable sources of information and that they find the news acquired from social media reliable. Furthermore, the students indicated that they would recommend their friends to

acquire news from social media, but also that they would consider social media platforms as news sources if they were recommended to them by their friends. The results from this study also showed that students' knowledge of social bots is questionable but most of the students indicated that they have got security measures implemented on their social media applications. The alignment of the results obtained in this study with the conceptual framework used to frame this study is also presented in this chapter.

CHAPTER SIX: CONCLUSION

6.1. Introduction

The previous chapter gave a presentation of the results that were obtained from the answers of the respondents with reference to the objectives of the study and the literature. This chapter concludes this study from the results obtained and the discussions made. The summary of the major results obtained in this study as well as the summary of how the objectives were achieved are presented in this chapter. The chapter also presents the recommendations to academic institutions and the government in South Africa. Suggestions for future research are also presented in this chapter.

6.2. Summary of the chapters

Chapter One gave a brief introduction of the concept of fake news and its spread on social media platforms in this era of technological explosion. The chapter also presented a brief background of the evolution of fake news from the beginning of printed media to the era of the internet and social media. This chapter also presented the research problem that was to be investigated in this study. To investigate the problem, three research questions were formulated. The research objectives were derived from these questions and were presented in this chapter along with the questions. The chapter also presented a brief description of the research methodology that was employed to carry out this study. The chapter further presented the limitation to the study and a brief overview of the thesis.

Chapter Two presented a review of the studies that were conducted before in relation with the concept of fake news. This chapter presented the review of the literature on the phenomenon that is fake news. Its presentation included the evolution of fake news: fake news prior to internet, fake news during the internet era and fake news in the era of social media. The chapter also presented the challenges that people face in identifying fake news. One of those challenges being the fact that fake news is hard to spot. The chapter also presented the various ways that can help people to be more cautious about the news they are reading, in order to avoid fake news, and the different measures that social media companies and other media companies, such as CNN, are taking against the spread of fake news.

Chapter Three presented a detailed description of the research methodology that was employed in this study. A quantitative approach was adopted in this study and questionnaires were used to collect data from a sample of 370 students. The sample size was selected using the Krejcie and

Morgan (1970)'s table from a target population of 9741 students. The students who participated in this study were selected using the convenience sampling technique. The chapter further presented a detailed description of the conceptual framework that was used to guide this study. The conceptual framework used in this study was developed because there was no predefined model that contained constructs and variables fit to investigate the objectives of this study. The chapter also presented how non-response bias was handled in this study and the ethical principles were maintained.

Chapter Four presented a detailed analysis of the data obtained from the respondents. The chapter first presented the reliability test results and the normality test. The results from the normality test showed that the data collected from the respondents did not follow a normal distribution. Therefore, non-parametric tests were conducted. In this study, cross tabulations and chi-square tests were conducted to generate significant results for the data that was collected. The interpretations of some of the results that were obtained were also presented in this chapter.

Chapter Five presented the discussion of the results that were obtained from the analysis of the data with reference to the objectives of the study and the literature. The alignment of the results obtained from this study with the research objectives is also presented in this chapter. In this study, it was found that most students believe that social media platforms are reliable sources for the acquisition of news and they believe that the news that they get from social media platforms is also reliable.

The section below gives a presentation of the conclusion of this study in relation with the results acquired and the discussions made.

6.3. Summary of the findings

A conceptual framework was developed to underpin this study and from it, the research questions for this study were derived. The main research questions for this study were:

- What are the factors that influence university students in South Africa to trust social media as a news source?
- What are the factors that influence the trust that university students have in the news they acquire from social media?

- What are the factors that shape the behaviour of university students towards the news they acquire from social media?

The results acquired from the analysis of the responses from the respondents showed that a big number of students indicated that they use social media applications to acquire their news. A large number of the respondents indicated that they consider social media to be a trustworthy source of news and that they would recommend it to their friends and family. Furthermore, a large number of the respondents indicated that they trust in the news from social media is influenced by their friends and family, but also by the feedback that the news receives on social media. In addition to this, some of the respondents indicated that their trust in the news from social media is strengthened by the results they get from performing fact check after reading news on social media. The behavior of the majority of the respondents, as they indicated, after acquiring news from social media is determined whether they believe the news to be true or not. However, some of the respondents indicated that they share news on social media whether they believe it to be true or not, and a small number of students indicated that they do not share news on social media even if they are convinced that it is true.

A descriptive approach was employed in this study and quantitative data was collected from the students using questionnaires. To analyze the data, SPSS was used; and descriptive and inferential results were obtained. The results of this study showed that most of the students use social media platforms to acquire news. Not only they acquire news from their social media platforms, they also believe that the social media platforms are reliable sources for news acquisition and that the news they acquire is trustworthy. Furthermore, most (52.7%) of the students indicated that they trust their social media platforms to be reliable sources of news to the extent that they can recommend their friends and family to use it as well. The results also showed that a big number (44.7%) of the respondents indicated that they would consider social media platforms as reliable news sources if their friends or family use them as news source.

As regards the perceptions of South African students on the verification of the news acquired from social media platforms, the majority of students indicated that they often check other news channels to verify the news that they get from their social media pages. A considerable number of the students indicated that they only share news on social media if they are sure that that the news is true, but some other students admitted to sharing news on social media even if they are not sure

that the news is trustworthy. The results further showed that a considerable number of students indicated that they would not share news on social media even if they were convinced that the news is trustworthy.

Furthermore, it has been found that students are confused and do not understand the concept of social bots. This then making them more exposed to fake news and more active in its spread on their social media platforms. However, most of them indicated that they are aware of the security measures available on their social media applications. They indicated that they learn more about them before they can implement them, as well as their importance. They also indicated that they have security measures implemented on their social media applications.

6.4. Limitations of the study

The major limitations of this study were time, scope and funding. Given more time, this research could have adopted a mixed research approach, which combines both qualitative and quantitative approaches, instead of using only quantitative approach. Another limitation was the fact that the researcher was not able to use the students from the Durban University of Technology (DUT) in the study. The researcher was unable to get the gatekeeper's letter needed in the application of ethical clearance. The gatekeeper's letter represents the permission to use units from a given organization in the study. Due to the lack in funding for this study, the researcher was unable to extend the study to all five campuses of the University of KwaZulu Natal. This would require the researcher to travel a lot to the campuses. One minor limitation that the study faced was the fact that the research was unable to gather 370 valid answered questionnaires from the respondents. The researcher managed to gather 362 valid answered questionnaires, leading to a response rate of 97.84%.

6.5. Recommendations

6.5.1. To academic institutions

Knowing the perception that students in South Africa have on the diffusion of news on social media platforms has been important because in today's world, young adults' lives are dominated by the internet and they spend much of their time online. They are likely to learn about the world through their social media platforms where there is a large diffusion of fake news. It is important that students know how to make a difference between false and true information from the flashy contents that appear on their screens. Therefore, academic institutions are advised to provide

lectures and workshops that would inform students of the large diffusion of fake news on social media, how it is done, why it is done, and how they can become more cautious about the news they get from social media. They can also be taught about the concept of social media bots and how they are involved in the diffusion of fake news on social media. Students can then be taught about information literacy so that they can learn how to evaluate the news that they acquire from their social media platforms. They can also learn about the human natural reaction to news as well as the information skills and concepts. This knowledge can help students to avoid fake news and become better news consumers. In addition to this, the academic institutions should also organize workshops for teachers so that they can also learn about information literacy.

6.5.2. To the Government

The issue of fake news diffusion on social media does not affect only students, but everyone with access to social media. According to Chen (2017), an individual subscribed to a social media platform is likely to have witnessed fake news headlines. Kümpel et al. (2015) continued and said that Social media, in particular Facebook and Twitter, exposes some people to news that they could not have seen not being social media users. Therefore, the government is advised to organize documentary series as well as campaigns to inform people of this issue and provide them with information that can help them be more cautious about the news they are getting from social media. This can help reduce the spread of fake news on social media platforms.

6.6. Suggestions for future research

The concept of fake news has been evolving since the beginning of the printed media era and is still evolving in this era of social media. New technologies are being developed to make the diffusion of fake news easy and unnoticed. There is a high probability that the evolution of fake news will continue and that newer technologies will be developed to improve the diffusion of fake news, but newer technologies might also be developed to fight the spread of fake news. The following suggestions are made for the purpose of future research on the technologies available for or against the diffusion of fake news:

A further research should be conducted on both the technologies that are used to improve and to fight the diffusion of fake news on social media platforms, how they work, and the differences and similarities in their functioning.

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Appendix A – Ethical Clearance Letter



9 October 2018

Miss Ndamuso Bahige 212547252
School of Management, IT & Governance
Pietermaritzburg Campus

Dear Miss Bahige

Protocol Reference Number : HSS/1579/018M

Project title: The perception of university students on the diffusion of fake news on social media: A case of the University of KwaZulu-Natal (UKZN)

Full Approval – Expedited Application

In response to your application received 5 September 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Rosemary Sibanda (Deputy Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Professor Manoj Maharaj
cc Academic Leader Research: Professor I Martins
cc School Administrators: Ms D Cunynghame

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: simbap@ukzn.ac.za / snymam@ukzn.ac.za / mohunop@ukzn.ac.za

Website: www.ukzn.ac.za



100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

Appendix B – Gatekeeper’s Letter



24 July 2018

Miss Ndamuso Bahige (SN 212547252)
School of Management, IT and Governance
College of Law and Management Studies
Pietermaritzburg Campus
UKZN
Email: 212547252stu.ukzn.ac.za

Dear Miss Bahige

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper’s permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

“The perception of university students on the diffusion of fake news on social media: A case of the University of KwaZulu-Natal (UKZN) and the Durban University of Technology (DUT).”

It is noted that you will be constituting your sample by handing out questionnaires to students on the Pietermaritzburg.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using ‘Microsoft Outlook’ address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely


MR SS MOKOENA
REGISTRAR

Office of the Registrar

Postal Address: Private Bag X54001, Durban, South Africa

Telephone: +27 (0) 31 260 8005/2206 Facsimile: +27 (0) 31 260 7824/2204 Email: registrar@ukzn.ac.za

Website: www.ukzn.ac.za



Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

Appendix C – Questionnaire

Questionnaire

The perception of university students on the diffusion of fake news on social media: A case of the University of KwaZulu-Natal (UKZN) and the Durban University of Technology (DUT)

Researcher: Bahige Ndamuso
Supervisor: Professor Manoj Maharaj

Discipline of Information Systems & Technology
 College of Law and Management Studies
 University of KwaZulu-Natal
 Pietermaritzburg campus

- Please kindly take a moment of your time to fill this questionnaire.
- Please note that there is no correct/incorrect answer.
- Note that participation in the study is voluntary.
- Please sign the letter of informed consent to give me the permission to use your responses for this research project.
- Please kindly take note of the “**general instruction**” while filling this questionnaire.

GENERAL INSTRUCTION: In all the sections, kindly provide your response by ticking (✓) or a crossing (X) the appropriate box.

SECTION A

Your age:	<input type="checkbox"/> 18 – 21	<input type="checkbox"/> 22 – 25	<input type="checkbox"/> 26 -30	<input type="checkbox"/> 30 or older	
Your gender:	<input type="checkbox"/> Female		<input type="checkbox"/> Male		
Your race:	<input type="checkbox"/> African	<input type="checkbox"/> Colored	<input type="checkbox"/> Indian	<input type="checkbox"/> White	<input type="checkbox"/> Do not wish to answer
Your institution:	<input type="checkbox"/> DUT		<input type="checkbox"/> UKZN		
Your faculty:	<input type="checkbox"/> Art/Drama	<input type="checkbox"/> Health Sciences	<input type="checkbox"/> Law/ Management	<input type="checkbox"/> Social Sciences	<input type="checkbox"/> Science/ Technology

SECTION B

- How often do you log-in into the social media applications listed below? (Please choose the frequency that you feel is suitable).

	More than once per day	Daily	Weekly	Monthly	I do not use this application
Twitter					
Facebook					
Yahoo					
Pinterest					
LinkedIn					
Other (please specify below)					

- How often do you refer to the social media applications listed below for the acquisition of news? (Please choose the frequency that you feel is suitable)

	More than once per day	Daily	Weekly	Monthly	I do not get my news from this application
Twitter					
Facebook					
Yahoo					
Pinterest					
LinkedIn					
Other (please specify below)					

SECTION C

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I believe that social media is a reliable source for news acquisition					

2.	I would recommend a friend to use social media as a source of information					
3.	I subscribe to news sites that send interesting adverts on social media					
4.	I would recommend my friends to subscribe to news pages that I have subscribed to					

SECTION D

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I would consider social media as a news source if my friends/family use it as a source of news					
2.	I subscribe to news pages that my friends or family recommend to me on social media					
3.	I repost interesting news that my friends or family have posted on social media					

SECTION E

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I do not trust any news that I come across on social media.					
2.	The more people like and share a news item on social media, the more I trust it.					
3.	My trust in social media news depends on the comments that it receives from other people					
4.	I often check other news channels to verify the news that I read on my social media pages					

SECTION F

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	If I am sure that the news I read on social media is true, I share it so that my social media followers can also read it					
2.	If I find some news interesting, I share it on my social media without checking its veracity.					
3.	If I think that the news is fake, I do not share it no matter how interesting it is					
4.	I do not share news on social media, even if I am convinced that it is true					

SECTION G

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Social media bots are implemented to ensure the security of social media applications					
2.	I believe social media bots are implanted to prevent people from reading fake news					
3.	Social media bots are used to spy on social media users					
4.	Social media bots are put in place to learn people interests from pages they access through social media.					
5.	Social media bots provide users with news that are in line with their interests					
6.	I am aware of the security settings that are present on social media applications					

7.	I pay attention to the security settings of the social media applications that I use					
8.	I understand the importance of implementing security settings on my social media applications					
9.	I learn about the security measures that are present on social media applications before I can implement them					
10.	I have security settings implemented on most of my social media applications					

Appendix D – Statistical Analysis

0		The frequency of Twitter use					Total	
		I do not use this application	Monthly	Weekly	Daily	More than once per day		
The age of respondents	18 to 21	Count	128	18	23	13	19	201
		% within The age of respondents	63.7%	9.0%	11.4%	6.5%	9.5%	100.0%
		% within The frequency of Twitter use	55.2%	50.0%	60.5%	50.0%	63.3%	55.5%
	22 to 25	Count	81	13	11	10	11	126
		% within The age of respondents	64.3%	10.3%	8.7%	7.9%	8.7%	100.0%
		% within The frequency of Twitter use	34.9%	36.1%	28.9%	38.5%	36.7%	34.8%
	26 to 30	Count	14	3	3	2	0	22
		% within The age of respondents	63.6%	13.6%	13.6%	9.1%	0.0%	100.0%
		% within The frequency of Twitter use	6.0%	8.3%	7.9%	7.7%	0.0%	6.1%
30 or older	Count	9	2	1	1	0	13	
	% within The age of respondents	69.2%	15.4%	7.7%	7.7%	0.0%	100.0%	
	% within The frequency of Twitter use	3.9%	5.6%	2.6%	3.8%	0.0%	3.6%	
Total		Count	232	36	38	26	30	362
		% within The age of respondents	64.1%	9.9%	10.5%	7.2%	8.3%	100.0%
		% within The frequency of Twitter use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of Facebook use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	38	19	29	50	65	201
		% within The age of respondents	18.9%	9.5%	14.4%	24.9%	32.3%	100.0%
		% within The frequency of Facebook use	55.9%	51.4%	54.7%	51.5%	60.7%	55.5%
	22 to 25	Count	27	13	18	34	34	126
		% within The age of respondents	21.4%	10.3%	14.3%	27.0%	27.0%	100.0%
		% within The frequency of Facebook use	39.7%	35.1%	34.0%	35.1%	31.8%	34.8%
	26 to 30	Count	2	4	4	7	5	22
		% within The age of respondents	9.1%	18.2%	18.2%	31.8%	22.7%	100.0%
		% within The frequency of Facebook use	2.9%	10.8%	7.5%	7.2%	4.7%	6.1%
	30 or older	Count	1	1	2	6	3	13
		% within The age of respondents	7.7%	7.7%	15.4%	46.2%	23.1%	100.0%
		% within The frequency of Facebook use	1.5%	2.7%	3.8%	6.2%	2.8%	3.6%
Total		Count	68	37	53	97	107	362
		% within The age of respondents	18.8%	10.2%	14.6%	26.8%	29.6%	100.0%
		% within The frequency of Facebook use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of Yahoo use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	173	11	8	4	5	201
		% within The age of respondents	86.1%	5.5%	4.0%	2.0%	2.5%	100.0%
		% within The frequency of Yahoo use	56.7%	61.1%	53.3%	23.5%	71.4%	55.5%
	22 to 25	Count	112	3	5	6	0	126
		% within The age of respondents	88.9%	2.4%	4.0%	4.8%	0.0%	100.0%
		% within The frequency of Yahoo use	36.7%	16.7%	33.3%	35.3%	0.0%	34.8%
	26 to 30	Count	14	2	2	2	2	22
		% within The age of respondents	63.6%	9.1%	9.1%	9.1%	9.1%	100.0%
		% within The frequency of Yahoo use	4.6%	11.1%	13.3%	11.8%	28.6%	6.1%
	30 or older	Count	6	2	0	5	0	13
		% within The age of respondents	46.2%	15.4%	0.0%	38.5%	0.0%	100.0%
		% within The frequency of Yahoo use	2.0%	11.1%	0.0%	29.4%	0.0%	3.6%
Total		Count	305	18	15	17	7	362
		% within The age of respondents	84.3%	5.0%	4.1%	4.7%	1.9%	100.0%
		% within The frequency of Yahoo use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of Pinterest use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	161	18	8	7	7	201
		% within The age of respondents	80.1%	9.0%	4.0%	3.5%	3.5%	100.0%
		% within The frequency of Pinterest use	54.2%	72.0%	47.1%	58.3%	63.6%	55.5%
	22 to 25	Count	105	6	8	4	3	126
		% within The age of respondents	83.3%	4.8%	6.3%	3.2%	2.4%	100.0%
		% within The frequency of Pinterest use	35.4%	24.0%	47.1%	33.3%	27.3%	34.8%
	26 to 30	Count	19	1	1	1	0	22
		% within The age of respondents	86.4%	4.5%	4.5%	4.5%	0.0%	100.0%
		% within The frequency of Pinterest use	6.4%	4.0%	5.9%	8.3%	0.0%	6.1%
	30 or older	Count	12	0	0	0	1	13
		% within The age of respondents	92.3%	0.0%	0.0%	0.0%	7.7%	100.0%
		% within The frequency of Pinterest use	4.0%	0.0%	0.0%	0.0%	9.1%	3.6%
Total		Count	297	25	17	12	11	362
		% within The age of respondents	82.0%	6.9%	4.7%	3.3%	3.0%	100.0%
		% within The frequency of Pinterest use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of LinkedIn use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	161	20	10	6	4	201
		% within The age of respondents	80.1%	10.0%	5.0%	3.0%	2.0%	100.0%
		% within The frequency of LinkedIn use	60.5%	42.6%	35.7%	42.9%	57.1%	55.5%
	22 to 25	Count	82	22	15	4	3	126
		% within The age of respondents	65.1%	17.5%	11.9%	3.2%	2.4%	100.0%
		% within The frequency of LinkedIn use	30.8%	46.8%	53.6%	28.6%	42.9%	34.8%
	26 to 30	Count	14	3	3	2	0	22
		% within The age of respondents	63.6%	13.6%	13.6%	9.1%	0.0%	100.0%
		% within The frequency of LinkedIn use	5.3%	6.4%	10.7%	14.3%	0.0%	6.1%
	30 or older	Count	9	2	0	2	0	13
		% within The age of respondents	69.2%	15.4%	0.0%	15.4%	0.0%	100.0%
		% within The frequency of LinkedIn use	3.4%	4.3%	0.0%	14.3%	0.0%	3.6%
Total		Count	266	47	28	14	7	362
		% within The age of respondents	73.5%	13.0%	7.7%	3.9%	1.9%	100.0%
		% within The frequency of LinkedIn use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Age of respondents	Chi-square value	5.433	7.839	55.434	7.496	20.355
	Asymp. Sig. (p-value)	*0.942	*0.798	*0.000	*0.823	*0.061

*p > 0.05 >> significant relationship

			News acquisition from Twitter					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	136	13	19	18	15	201
		% within The age of respondents	67.7%	6.5%	9.5%	9.0%	7.5%	100.0%
		% within News acquisition from Twitter	55.1%	48.1%	59.4%	58.1%	60.0%	55.5%
	22 to 25	Count	87	9	11	9	10	126
		% within The age of respondents	69.0%	7.1%	8.7%	7.1%	7.9%	100.0%
		% within News acquisition from Twitter	35.2%	33.3%	34.4%	29.0%	40.0%	34.8%
	26 to 30	Count	15	3	2	2	0	22
		% within The age of respondents	68.2%	13.6%	9.1%	9.1%	0.0%	100.0%
		% within News acquisition from Twitter	6.1%	11.1%	6.3%	6.5%	0.0%	6.1%
	30 or older	Count	9	2	0	2	0	13
		% within The age of respondents	69.2%	15.4%	0.0%	15.4%	0.0%	100.0%
		% within News acquisition from Twitter	3.6%	7.4%	0.0%	6.5%	0.0%	3.6%
Total	Count	247	27	32	31	25	362	
	% within The age of respondents	68.2%	7.5%	8.8%	8.6%	6.9%	100.0%	
	% within News acquisition from Twitter	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

		News acquisition from Facebook					Total	
		I do not get my news from this application	Monthly	Weekly	Daily	More than once per day		
The age of respondents	18 to 21	Count	62	14	31	51	43	201
		% within The age of respondents	30.8%	7.0%	15.4%	25.4%	21.4%	100.0%
		% within News acquisition from Facebook	60.2%	38.9%	60.8%	51.5%	58.9%	55.5%
	22 to 25	Count	33	18	15	38	22	126
		% within The age of respondents	26.2%	14.3%	11.9%	30.2%	17.5%	100.0%
		% within News acquisition from Facebook	32.0%	50.0%	29.4%	38.4%	30.1%	34.8%
	26 to 30	Count	7	2	3	4	6	22
		% within The age of respondents	31.8%	9.1%	13.6%	18.2%	27.3%	100.0%
		% within News acquisition from Facebook	6.8%	5.6%	5.9%	4.0%	8.2%	6.1%
	30 or older	Count	1	2	2	6	2	13
		% within The age of respondents	7.7%	15.4%	15.4%	46.2%	15.4%	100.0%
		% within News acquisition from Facebook	1.0%	5.6%	3.9%	6.1%	2.7%	3.6%
Total	Count	103	36	51	99	73	362	
	% within The age of respondents	28.5%	9.9%	14.1%	27.3%	20.2%	100.0%	
	% within News acquisition from Facebook	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

			News acquisition from Yahoo					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	180	10	4	5	2	201
		% within The age of respondents	89.6%	5.0%	2.0%	2.5%	1.0%	100.0%
		% within News acquisition from Yahoo	57.0%	62.5%	36.4%	33.3%	50.0%	55.5%
	22 to 25	Count	112	4	5	4	1	126
		% within The age of respondents	88.9%	3.2%	4.0%	3.2%	0.8%	100.0%
		% within News acquisition from Yahoo	35.4%	25.0%	45.5%	26.7%	25.0%	34.8%
	26 to 30	Count	15	2	2	2	1	22
		% within The age of respondents	68.2%	9.1%	9.1%	9.1%	4.5%	100.0%
		% within News acquisition from Yahoo	4.7%	12.5%	18.2%	13.3%	25.0%	6.1%
	30 or older	Count	9	0	0	4	0	13
		% within The age of respondents	69.2%	0.0%	0.0%	30.8%	0.0%	100.0%
		% within News acquisition from Yahoo	2.8%	0.0%	0.0%	26.7%	0.0%	3.6%
Total	Count	316	16	11	15	4	362	
	% within The age of respondents	87.3%	4.4%	3.0%	4.1%	1.1%	100.0%	
	% within News acquisition from Yahoo	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

			News acquisition from Pinterest					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	178	10	3	6	4	201
		% within The age of respondents	88.6%	5.0%	1.5%	3.0%	2.0%	100.0%
		% within News acquisition from Pinterest	54.8%	62.5%	100.0%	54.5%	57.1%	55.5%
	22 to 25	Count	114	6	0	4	2	126
		% within The age of respondents	90.5%	4.8%	0.0%	3.2%	1.6%	100.0%
		% within News acquisition from Pinterest	35.1%	37.5%	0.0%	36.4%	28.6%	34.8%
	26 to 30	Count	21	0	0	1	0	22
		% within The age of respondents	95.5%	0.0%	0.0%	4.5%	0.0%	100.0%
		% within News acquisition from Pinterest	6.5%	0.0%	0.0%	9.1%	0.0%	6.1%
	30 or older	Count	12	0	0	0	1	13
		% within The age of respondents	92.3%	0.0%	0.0%	0.0%	7.7%	100.0%
		% within News acquisition from Pinterest	3.7%	0.0%	0.0%	0.0%	14.3%	3.6%
Total	Count	325	16	3	11	7	362	
	% within The age of respondents	89.8%	4.4%	0.8%	3.0%	1.9%	100.0%	
	% within News acquisition from Pinterest	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

			News acquisition from LinkedIn					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The age of respondents	18 to 21	Count	175	9	10	5	2	201
		% within The age of respondents	87.1%	4.5%	5.0%	2.5%	1.0%	100.0%
		% within News acquisition from LinkedIn	57.8%	52.9%	45.5%	31.3%	66.7%	55.7%
	22 to 25	Count	102	6	10	7	1	126
		% within The age of respondents	81.0%	4.8%	7.9%	5.6%	0.8%	100.0%
		% within News acquisition from LinkedIn	33.7%	35.3%	45.5%	43.8%	33.3%	34.9%
	26 to 30	Count	17	1	2	2	0	22
		% within The age of respondents	77.3%	4.5%	9.1%	9.1%	0.0%	100.0%
		% within News acquisition from LinkedIn	5.6%	5.9%	9.1%	12.5%	0.0%	6.1%
	30 or older	Count	9	1	0	2	0	12
		% within The age of respondents	75.0%	8.3%	0.0%	16.7%	0.0%	100.0%
		% within News acquisition from LinkedIn	3.0%	5.9%	0.0%	12.5%	0.0%	3.3%
Total	Count	303	17	22	16	3	361	
	% within The age of respondents	83.9%	4.7%	6.1%	4.4%	0.8%	100.0%	
	% within News acquisition from LinkedIn	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

		Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Age of respondents	Chi-square value	7.511	12.286	35.726	7.557	10.682
	Asymp. Sig. (p-value)	*0.822	*0.423	*0.000	*0.819	*0.556

*p > 0.05 >> significant relationship

			The frequency of Twitter use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	200	32	33	22	24	311
		% within The race of respondents	64.3%	10.3%	10.6%	7.1%	7.7%	100.0%
		% within The frequency of Twitter use	86.2%	88.9%	86.8%	88.0%	80.0%	86.1%
	Colored	Count	6	0	0	0	1	7
		% within The race of respondents	85.7%	0.0%	0.0%	0.0%	14.3%	100.0%
		% within The frequency of Twitter use	2.6%	0.0%	0.0%	0.0%	3.3%	1.9%
	Indian	Count	21	2	3	0	5	31
		% within The race of respondents	67.7%	6.5%	9.7%	0.0%	16.1%	100.0%
		% within The frequency of Twitter use	9.1%	5.6%	7.9%	0.0%	16.7%	8.6%
	White	Count	3	1	1	3	0	8
		% within The race of respondents	37.5%	12.5%	12.5%	37.5%	0.0%	100.0%
		% within The frequency of Twitter use	1.3%	2.8%	2.6%	12.0%	0.0%	2.2%
	Do not wish to answer	Count	2	1	1	0	0	4
		% within The race of respondents	50.0%	25.0%	25.0%	0.0%	0.0%	100.0%
		% within The frequency of Twitter use	0.9%	2.8%	2.6%	0.0%	0.0%	1.1%
Total		Count	232	36	38	25	30	361
		% within The race of respondents	64.3%	10.0%	10.5%	6.9%	8.3%	100.0%
		% within The frequency of Twitter use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of Facebook use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	55	33	47	85	91	311
		% within The race of respondents	17.7%	10.6%	15.1%	27.3%	29.3%	100.0%
		% within The frequency of Facebook use	80.9%	89.2%	88.7%	87.6%	85.8%	86.1%
	Colored	Count	3	1	1	0	2	7
		% within The race of respondents	42.9%	14.3%	14.3%	0.0%	28.6%	100.0%
		% within The frequency of Facebook use	4.4%	2.7%	1.9%	0.0%	1.9%	1.9%
	Indian	Count	9	1	4	7	10	31
		% within The race of respondents	29.0%	3.2%	12.9%	22.6%	32.3%	100.0%
		% within The frequency of Facebook use	13.2%	2.7%	7.5%	7.2%	9.4%	8.6%
	White	Count	1	1	1	3	2	8
		% within The race of respondents	12.5%	12.5%	12.5%	37.5%	25.0%	100.0%
		% within The frequency of Facebook use	1.5%	2.7%	1.9%	3.1%	1.9%	2.2%
	Do not wish to answer	Count	0	1	0	2	1	4
		% within The race of respondents	0.0%	25.0%	0.0%	50.0%	25.0%	100.0%
		% within The frequency of Facebook use	0.0%	2.7%	0.0%	2.1%	0.9%	1.1%
Total		Count	68	37	53	97	106	361
		% within The race of respondents	18.8%	10.2%	14.7%	26.9%	29.4%	100.0%
		% within The frequency of Facebook use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of Yahoo use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	262	17	11	16	5	311
		% within The race of respondents	84.2%	5.5%	3.5%	5.1%	1.6%	100.0%
		% within The frequency of Yahoo use	86.2%	94.4%	73.3%	94.1%	71.4%	86.1%
	Colored	Count	7	0	0	0	0	7
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of Yahoo use	2.3%	0.0%	0.0%	0.0%	0.0%	1.9%
	Indian	Count	23	1	4	1	2	31
		% within The race of respondents	74.2%	3.2%	12.9%	3.2%	6.5%	100.0%
		% within The frequency of Yahoo use	7.6%	5.6%	26.7%	5.9%	28.6%	8.6%
	White	Count	8	0	0	0	0	8
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of Yahoo use	2.6%	0.0%	0.0%	0.0%	0.0%	2.2%
	Do not wish to answer	Count	4	0	0	0	0	4
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of Yahoo use	1.3%	0.0%	0.0%	0.0%	0.0%	1.1%
Total		Count	304	18	15	17	7	361
		% within The race of respondents	84.2%	5.0%	4.2%	4.7%	1.9%	100.0%
		% within The frequency of Yahoo use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		The frequency of Pinterest use					Total	
		I do not use this application	Monthly	Weekly	Daily	More than once per day		
The race of respondents	African	Count	266	19	10	10	6	311
		% within The race of respondents	85.5%	6.1%	3.2%	3.2%	1.9%	100.0%
		% within The frequency of Pinterest use	89.9%	76.0%	58.8%	83.3%	54.5%	86.1%
	Colored	Count	6	0	1	0	0	7
		% within The race of respondents	85.7%	0.0%	14.3%	0.0%	0.0%	100.0%
		% within The frequency of Pinterest use	2.0%	0.0%	5.9%	0.0%	0.0%	1.9%
	Indian	Count	15	5	6	1	4	31
		% within The race of respondents	48.4%	16.1%	19.4%	3.2%	12.9%	100.0%
		% within The frequency of Pinterest use	5.1%	20.0%	35.3%	8.3%	36.4%	8.6%
	White	Count	7	0	0	0	1	8
		% within The race of respondents	87.5%	0.0%	0.0%	0.0%	12.5%	100.0%
		% within The frequency of Pinterest use	2.4%	0.0%	0.0%	0.0%	9.1%	2.2%
	Do not wish to answer	Count	2	1	0	1	0	4
		% within The race of respondents	50.0%	25.0%	0.0%	25.0%	0.0%	100.0%
		% within The frequency of Pinterest use	0.7%	4.0%	0.0%	8.3%	0.0%	1.1%
Total		Count	296	25	17	12	11	361
		% within The race of respondents	82.0%	6.9%	4.7%	3.3%	3.0%	100.0%
		% within The frequency of Pinterest use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of LinkedIn use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	228	42	24	12	5	311
		% within The race of respondents	73.3%	13.5%	7.7%	3.9%	1.6%	100.0%
		% within The frequency of LinkedIn use	86.0%	89.4%	85.7%	85.7%	71.4%	86.1%
	Colored	Count	7	0	0	0	0	7
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of LinkedIn use	2.6%	0.0%	0.0%	0.0%	0.0%	1.9%
	Indian	Count	20	4	4	1	2	31
		% within The race of respondents	64.5%	12.9%	12.9%	3.2%	6.5%	100.0%
		% within The frequency of LinkedIn use	7.5%	8.5%	14.3%	7.1%	28.6%	8.6%
	White	Count	7	1	0	0	0	8
		% within The race of respondents	87.5%	12.5%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of LinkedIn use	2.6%	2.1%	0.0%	0.0%	0.0%	2.2%
	Do not wish to answer	Count	3	0	0	1	0	4
		% within The race of respondents	75.0%	0.0%	0.0%	25.0%	0.0%	100.0%
		% within The frequency of LinkedIn use	1.1%	0.0%	0.0%	7.1%	0.0%	1.1%
Total		Count	265	47	28	14	7	361
		% within The race of respondents	73.4%	13.0%	7.8%	3.9%	1.9%	100.0%
		% within The frequency of LinkedIn use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Race of respondents	Chi-square value	22.663	11.669	13.966	49.828	14.267
	Asymp. Sig. (p-value)	*0.123	*0.766	*0.601	*0.000	*0.579

*p > 0.05 >> significant relationship

			News acquisition from Twitter					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	213	25	27	26	20	311
		% within The race of respondents	68.5%	8.0%	8.7%	8.4%	6.4%	100.0%
		% within News acquisition from Twitter	86.2%	92.6%	84.4%	86.7%	80.0%	86.1%
	Colored	Count	6	0	0	0	1	7
		% within The race of respondents	85.7%	0.0%	0.0%	0.0%	14.3%	100.0%
		% within News acquisition from Twitter	2.4%	0.0%	0.0%	0.0%	4.0%	1.9%
	Indian	Count	21	2	3	1	4	31
		% within The race of respondents	67.7%	6.5%	9.7%	3.2%	12.9%	100.0%
		% within News acquisition from Twitter	8.5%	7.4%	9.4%	3.3%	16.0%	8.6%
	White	Count	4	0	1	3	0	8
		% within The race of respondents	50.0%	0.0%	12.5%	37.5%	0.0%	100.0%
		% within News acquisition from Twitter	1.6%	0.0%	3.1%	10.0%	0.0%	2.2%
	Do not wish to answer	Count	3	0	1	0	0	4
		% within The race of respondents	75.0%	0.0%	25.0%	0.0%	0.0%	100.0%
		% within News acquisition from Twitter	1.2%	0.0%	3.1%	0.0%	0.0%	1.1%
Total		Count	247	27	32	30	25	361
		% within The race of respondents	68.4%	7.5%	8.9%	8.3%	6.9%	100.0%
		% within News acquisition from Twitter	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			News acquisition from Facebook					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	86	32	45	83	65	311
		% within The race of respondents	27.7%	10.3%	14.5%	26.7%	20.9%	100.0%
		% within News acquisition from Facebook	83.5%	88.9%	88.2%	83.8%	90.3%	86.1%
	Colored	Count	4	0	2	0	1	7
		% within The race of respondents	57.1%	0.0%	28.6%	0.0%	14.3%	100.0%
		% within News acquisition from Facebook	3.9%	0.0%	3.9%	0.0%	1.4%	1.9%
	Indian	Count	10	2	4	9	6	31
		% within The race of respondents	32.3%	6.5%	12.9%	29.0%	19.4%	100.0%
		% within News acquisition from Facebook	9.7%	5.6%	7.8%	9.1%	8.3%	8.6%
	White	Count	2	2	0	4	0	8
		% within The race of respondents	25.0%	25.0%	0.0%	50.0%	0.0%	100.0%
		% within News acquisition from Facebook	1.9%	5.6%	0.0%	4.0%	0.0%	2.2%
	Do not wish to answer	Count	1	0	0	3	0	4
		% within The race of respondents	25.0%	0.0%	0.0%	75.0%	0.0%	100.0%
		% within News acquisition from Facebook	1.0%	0.0%	0.0%	3.0%	0.0%	1.1%
Total		Count	103	36	51	99	72	361
		% within The race of respondents	28.5%	10.0%	14.1%	27.4%	19.9%	100.0%
		% within News acquisition from Facebook	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			News acquisition from Yahoo					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	271	14	9	13	4	311
		% within The race of respondents	87.1%	4.5%	2.9%	4.2%	1.3%	100.0%
		% within News acquisition from Yahoo	86.0%	87.5%	81.8%	86.7%	100.0%	86.1%
	Colored	Count	7	0	0	0	0	7
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from Yahoo	2.2%	0.0%	0.0%	0.0%	0.0%	1.9%
	Indian	Count	25	2	2	2	0	31
		% within The race of respondents	80.6%	6.5%	6.5%	6.5%	0.0%	100.0%
		% within News acquisition from Yahoo	7.9%	12.5%	18.2%	13.3%	0.0%	8.6%
	White	Count	8	0	0	0	0	8
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from Yahoo	2.5%	0.0%	0.0%	0.0%	0.0%	2.2%
	Do not wish to answer	Count	4	0	0	0	0	4
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from Yahoo	1.3%	0.0%	0.0%	0.0%	0.0%	1.1%
Total	Count	315	16	11	15	4	361	
	% within The race of respondents	87.3%	4.4%	3.0%	4.2%	1.1%	100.0%	
	% within News acquisition from Yahoo	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

			News acquisition from Pinterest					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	286	12	1	8	4	311
		% within The race of respondents	92.0%	3.9%	0.3%	2.6%	1.3%	100.0%
		% within News acquisition from Pinterest	88.3%	75.0%	33.3%	72.7%	57.1%	86.1%
	Colored	Count	7	0	0	0	0	7
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from Pinterest	2.2%	0.0%	0.0%	0.0%	0.0%	1.9%
	Indian	Count	21	4	2	2	2	31
		% within The race of respondents	67.7%	12.9%	6.5%	6.5%	6.5%	100.0%
		% within News acquisition from Pinterest	6.5%	25.0%	66.7%	18.2%	28.6%	8.6%
	White	Count	7	0	0	0	1	8
		% within The race of respondents	87.5%	0.0%	0.0%	0.0%	12.5%	100.0%
		% within News acquisition from Pinterest	2.2%	0.0%	0.0%	0.0%	14.3%	2.2%
	Do not wish to answer	Count	3	0	0	1	0	4
		% within The race of respondents	75.0%	0.0%	0.0%	25.0%	0.0%	100.0%
		% within News acquisition from Pinterest	0.9%	0.0%	0.0%	9.1%	0.0%	1.1%
Total		Count	324	16	3	11	7	361
		% within The race of respondents	89.8%	4.4%	0.8%	3.0%	1.9%	100.0%
		% within News acquisition from Pinterest	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			News acquisition from LinkedIn					Total
			I do not get my news from this application	Monthly	Weekly	Daily	More than once per day	
The race of respondents	African	Count	260	14	20	14	2	310
		% within The race of respondents	83.9%	4.5%	6.5%	4.5%	0.6%	100.0%
		% within News acquisition from LinkedIn	86.1%	82.4%	90.9%	87.5%	66.7%	86.1%
	Colored	Count	7	0	0	0	0	7
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from LinkedIn	2.3%	0.0%	0.0%	0.0%	0.0%	1.9%
	Indian	Count	24	3	2	1	1	31
		% within The race of respondents	77.4%	9.7%	6.5%	3.2%	3.2%	100.0%
		% within News acquisition from LinkedIn	7.9%	17.6%	9.1%	6.3%	33.3%	8.6%
	White	Count	8	0	0	0	0	8
		% within The race of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within News acquisition from LinkedIn	2.6%	0.0%	0.0%	0.0%	0.0%	2.2%
	Do not wish to answer	Count	3	0	0	1	0	4
		% within The race of respondents	75.0%	0.0%	0.0%	25.0%	0.0%	100.0%
		% within News acquisition from LinkedIn	1.0%	0.0%	0.0%	6.3%	0.0%	1.1%
Total	Count	302	17	22	16	3	360	
	% within The race of respondents	83.9%	4.7%	6.1%	4.4%	0.8%	100.0%	
	% within News acquisition from LinkedIn	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

		Twitter	Facebook	Yahoo	Pinterest	LinkedIn
Race of respondents	Chi-square value	17.445	17.861	5.249	37.978	11.415
	Asymp. Sig. (p-value)	*0.357	*0.332	*0.994	*0.002	*0.783

*p > 0.05 = no significant relationship

		The frequency of Twitter use					Total	
		I do not use this application	Monthly	Weekly	Daily	More than once per day		
The faculty of respondents	Art/Drama	Count	8	1	3	1	1	14
		% within The faculty of respondents	57.1%	7.1%	21.4%	7.1%	7.1%	100.0%
		% within The frequency of Twitter use	3.4%	2.8%	7.9%	4.0%	3.3%	3.9%
	Health Sciences	Count	10	0	1	1	0	12
		% within The faculty of respondents	83.3%	0.0%	8.3%	8.3%	0.0%	100.0%
		% within The frequency of Twitter use	4.3%	0.0%	2.6%	4.0%	0.0%	3.3%
	Law/Management	Count	61	9	10	9	13	102
		% within The faculty of respondents	59.8%	8.8%	9.8%	8.8%	12.7%	100.0%
		% within The frequency of Twitter use	26.3%	25.0%	26.3%	36.0%	43.3%	28.3%
	Social Sciences	Count	75	6	13	7	10	111
		% within The faculty of respondents	67.6%	5.4%	11.7%	6.3%	9.0%	100.0%
		% within The frequency of Twitter use	32.3%	16.7%	34.2%	28.0%	33.3%	30.7%
	Science/Technology	Count	78	20	11	7	6	122
		% within The faculty of respondents	63.9%	16.4%	9.0%	5.7%	4.9%	100.0%
		% within The frequency of Twitter use	33.6%	55.6%	28.9%	28.0%	20.0%	33.8%
Total		Count	232	36	38	25	30	361
		% within The faculty of respondents	64.3%	10.0%	10.5%	6.9%	8.3%	100.0%
		% within The frequency of Twitter use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		The frequency of Facebook use					Total	
		I do not use this application	Monthly	Weekly	Daily	More than once per day		
The faculty of respondents	Art/Drama	Count	0	3	2	4	5	14
		% within The faculty of respondents	0.0%	21.4%	14.3%	28.6%	35.7%	100.0%
		% within The frequency of Facebook use	0.0%	8.1%	3.8%	4.1%	4.7%	3.9%
	Health Sciences	Count	1	1	4	3	3	12
		% within The faculty of respondents	8.3%	8.3%	33.3%	25.0%	25.0%	100.0%
		% within The frequency of Facebook use	1.5%	2.7%	7.5%	3.1%	2.8%	3.3%
	Law/Management	Count	22	13	12	19	36	102
		% within The faculty of respondents	21.6%	12.7%	11.8%	18.6%	35.3%	100.0%
		% within The frequency of Facebook use	32.4%	35.1%	22.6%	19.6%	34.0%	28.3%
	Social Sciences	Count	17	10	15	39	30	111
		% within The faculty of respondents	15.3%	9.0%	13.5%	35.1%	27.0%	100.0%
		% within The frequency of Facebook use	25.0%	27.0%	28.3%	40.2%	28.3%	30.7%
	Science/Technology	Count	28	10	20	32	32	122
		% within The faculty of respondents	23.0%	8.2%	16.4%	26.2%	26.2%	100.0%
		% within The frequency of Facebook use	41.2%	27.0%	37.7%	33.0%	30.2%	33.8%
Total	Count	68	37	53	97	106	361	
	% within The faculty of respondents	18.8%	10.2%	14.7%	26.9%	29.4%	100.0%	
	% within The frequency of Facebook use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

			The frequency of Yahoo use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The faculty of respondents	Art/Drama	Count	11	3	0	0	0	14
		% within The faculty of respondents	78.6%	21.4%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of Yahoo use	3.6%	16.7%	0.0%	0.0%	0.0%	3.9%
	Health Sciences	Count	9	0	1	2	0	12
		% within The faculty of respondents	75.0%	0.0%	8.3%	16.7%	0.0%	100.0%
		% within The frequency of Yahoo use	3.0%	0.0%	6.7%	11.8%	0.0%	3.3%
	Law/Management	Count	85	5	4	5	3	102
		% within The faculty of respondents	83.3%	4.9%	3.9%	4.9%	2.9%	100.0%
		% within The frequency of Yahoo use	28.0%	27.8%	26.7%	29.4%	42.9%	28.3%
	Social Sciences	Count	96	2	5	6	2	111
		% within The faculty of respondents	86.5%	1.8%	4.5%	5.4%	1.8%	100.0%
		% within The frequency of Yahoo use	31.6%	11.1%	33.3%	35.3%	28.6%	30.7%
	Science/Technology	Count	103	8	5	4	2	122
		% within The faculty of respondents	84.4%	6.6%	4.1%	3.3%	1.6%	100.0%
		% within The frequency of Yahoo use	33.9%	44.4%	33.3%	23.5%	28.6%	33.8%
Total	Count	304	18	15	17	7	361	
	% within The faculty of respondents	84.2%	5.0%	4.2%	4.7%	1.9%	100.0%	
	% within The frequency of Yahoo use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

		The frequency of Pinterest use					Total	
		I do not use this application	Monthly	Weekly	Daily	More than once per day		
The faculty of respondents	Art/Drama	Count	12	1	0	0	1	14
		% within The faculty of respondents	85.7%	7.1%	0.0%	0.0%	7.1%	100.0%
		% within The frequency of Pinterest use	4.1%	4.0%	0.0%	0.0%	9.1%	3.9%
	Health Sciences	Count	9	2	0	0	1	12
		% within The faculty of respondents	75.0%	16.7%	0.0%	0.0%	8.3%	100.0%
		% within The frequency of Pinterest use	3.0%	8.0%	0.0%	0.0%	9.1%	3.3%
	Law/Management	Count	80	5	7	5	5	102
		% within The faculty of respondents	78.4%	4.9%	6.9%	4.9%	4.9%	100.0%
		% within The frequency of Pinterest use	27.0%	20.0%	41.2%	41.7%	45.5%	28.3%
	Social Sciences	Count	88	9	6	4	4	111
		% within The faculty of respondents	79.3%	8.1%	5.4%	3.6%	3.6%	100.0%
		% within The frequency of Pinterest use	29.7%	36.0%	35.3%	33.3%	36.4%	30.7%
	Science/Technology	Count	107	8	4	3	0	122
		% within The faculty of respondents	87.7%	6.6%	3.3%	2.5%	0.0%	100.0%
		% within The frequency of Pinterest use	36.1%	32.0%	23.5%	25.0%	0.0%	33.8%
Total		Count	296	25	17	12	11	361
		% within The faculty of respondents	82.0%	6.9%	4.7%	3.3%	3.0%	100.0%
		% within The frequency of Pinterest use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

			The frequency of LinkedIn use					Total
			I do not use this application	Monthly	Weekly	Daily	More than once per day	
The faculty of respondents	Art/Drama	Count	13	0	0	1	0	14
		% within The faculty of respondents	92.9%	0.0%	0.0%	7.1%	0.0%	100.0%
		% within The frequency of LinkedIn use	4.9%	0.0%	0.0%	7.1%	0.0%	3.9%
	Health Sciences	Count	12	0	0	0	0	12
		% within The faculty of respondents	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within The frequency of LinkedIn use	4.5%	0.0%	0.0%	0.0%	0.0%	3.3%
	Law/Management	Count	75	12	7	4	4	102
		% within The faculty of respondents	73.5%	11.8%	6.9%	3.9%	3.9%	100.0%
		% within The frequency of LinkedIn use	28.3%	25.5%	25.0%	28.6%	57.1%	28.3%
	Social Sciences	Count	88	13	3	5	2	111
		% within The faculty of respondents	79.3%	11.7%	2.7%	4.5%	1.8%	100.0%
		% within The frequency of LinkedIn use	33.2%	27.7%	10.7%	35.7%	28.6%	30.7%
	Science/Technology	Count	77	22	18	4	1	122
		% within The faculty of respondents	63.1%	18.0%	14.8%	3.3%	0.8%	100.0%
		% within The frequency of LinkedIn use	29.1%	46.8%	64.3%	28.6%	14.3%	33.8%
Total		Count	265	47	28	14	7	361
		% within The faculty of respondents	73.4%	13.0%	7.8%	3.9%	1.9%	100.0%
		% within The frequency of LinkedIn use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	*Sig.	Statistic	df	*Sig.
The age of respondents	0,332	359	0,000	0,716	359	0,000
The gender of respondents	0,385	359	0,000	0,626	359	0,000
The race of respondents	0,507	359	0,000	0,424	359	0,000
The faculty of respondents	0,196	359	0,000	0,847	359	0,000
The frequency of Twitter use	0,381	359	0,000	0,673	359	0,000
The frequency of Facebook use	0,228	359	0,000	0,845	359	0,000
The frequency of Yahoo use	0,495	359	0,000	0,432	359	0,000
The frequency of Pinterest use	0,477	359	0,000	0,466	359	0,000
The frequency of LinkedIn use	0,429	359	0,000	0,580	359	0,000
News acquisition from Twitter	0,409	359	0,000	0,640	359	0,000
News acquisition from Facebook	0,218	359	0,000	0,846	359	0,000
News acquisition from Yahoo	0,506	359	0,000	0,388	359	0,000
News acquisition from Pinterest	0,513	359	0,000	0,326	359	0,000
News acquisition from LinkedIn	0,493	359	0,000	0,453	359	0,000
I believe that social media is a reliable source for news acquisition	0,211	359	0,000	0,893	359	0,000

I would recommend a friend to use social media as a source of information	0,232	359	0,000	0,899	359	0,000
I subscribe to news sites that send interesting adverts on social media	0,226	359	0,000	0,901	359	0,000
I would recommend my friends to subscribe to news pages that i have subscribed to	0,233	359	0,000	0,895	359	0,000
I would consider social media as a news source if my friends/family use it as a source of news	0,211	359	0,000	0,905	359	0,000
I subscribe to news pages that my friends or family recommend to me on social media	0,213	359	0,000	0,903	359	0,000
I repost interesting news that my friends or family have posted on social media	0,208	359	0,000	0,905	359	0,000
I do not trust any news that i come across on social media	0,263	359	0,000	0,877	359	0,000
The more people like and share a news item on social media, the more I trust it	0,198	359	0,000	0,904	359	0,000
My trust in social media news depends on the comments that it receives from other people	0,182	359	0,000	0,913	359	0,000
I often check news channels to verify the news that I read on my social media pages	0,251	359	0,000	0,803	359	0,000

If I am sure that the news i read on social media is true, I share it so that my social media followers can also read it	0,209	359	0,000	0,905	359	0,000
If i find some news interesting, I share it on my social media without checking its veracity	0,240	359	0,000	0,897	359	0,000
If I think that the news is fake, I do not share it no matter how interesting it is	0,231	359	0,000	0,826	359	0,000
I do not share news on social media, even if I am convinced it is true	0,204	359	0,000	0,898	359	0,000
Social media bots are implemented to ensure the security of social media applications	0,266	359	0,000	0,863	359	0,000
I believe social media bots are implanted to prevent people from reading fake news	0,204	359	0,000	0,893	359	0,000
Social media bots are used to spy on social media users	0,250	359	0,000	0,887	359	0,000
Social media bots are put in place to learn people interests from pages they access through social media	0,233	359	0,000	0,872	359	0,000
Social media bots provide users with news that are in line with their interests	0,223	359	0,000	0,872	359	0,000
I am aware of the security settings that are present on social media applications	0,261	359	0,000	0,862	359	0,000

I pay attention to the security settings of the social media applications that I use	0,243	359	0,000	0,870	359	0,000
I understand the importance of implementing security settings on my social media applications	0,245	359	0,000	0,822	359	0,000
I learn about the security measures that are present on social media applications before I can implement them	0,224	359	0,000	0,894	359	0,000
I have security settings implemented on most of my social media applications	0,247	359	0,000	0,849	359	0,000
a. Lilliefors Significance Correction						
*Significance Value						

Reliability Test

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
The frequency of Twitter use	101,24	175,365	0,285	0,906	0,811
The frequency of Facebook use	99,71	173,325	0,302	0,724	0,811
The frequency of Yahoo use	101,76	180,195	0,253	0,682	0,811
The frequency of Pinterest use	101,72	181,201	0,199	0,676	0,813
The frequency of LinkedIn use	101,62	177,857	0,339	0,776	0,809
News acquisition from Twitter	101,31	175,492	0,289	0,908	0,811

News acquisition from Facebook	100,09	169,082	0,398	0,739	0,806
News acquisition from Yahoo	101,83	181,391	0,237	0,691	0,812
News acquisition from Pinterest	101,87	181,655	0,233	0,693	0,812
News acquisition from LinkedIn	101,77	178,619	0,347	0,783	0,809
I believe that social media is a reliable source for news acquisition	99,54	173,670	0,442	0,612	0,805
I would recommend a friend to use social media as a source of information	99,69	172,990	0,453	0,587	0,805
I subscribe to news sites that send interesting adverts on social media	99,86	173,383	0,402	0,556	0,806
I would recommend my friends to subscribe to news pages that i have subscribed to	99,70	173,860	0,428	0,546	0,805
I would consider social media as a news source if my friends/family use it as a source of news	99,87	174,658	0,397	0,579	0,807
I subscribe to news pages that my friends or family recommend to me on social media	99,99	173,457	0,445	0,549	0,805
I repost interesting news that my friends or family have posted on social media	99,87	173,598	0,394	0,460	0,806
I do not trust any news that i come across on social media	100,17	189,636	-0,133	0,180	0,822
The more people like and share a news item on social media, the more I trust it	100,18	177,695	0,308	0,370	0,810

My trust in social media news depends on the comments that it receives from other people	100,18	176,663	0,314	0,361	0,810
I often check news channels to verify the news that I read on my social media pages	98,95	180,418	0,258	0,247	0,811
If I am sure that the news i read on social media is true, I share it so that my social media followers can also read it	99,74	175,213	0,353	0,552	0,808
If i find some news interesting, I share it on my social media without checking its veracity	100,43	178,285	0,255	0,374	0,812
If I think that the news is fake, I do not share it no matter how interesting it is	99,17	180,672	0,168	0,154	0,815
I do not share news on social media, even if I am convinced it is true	100,18	191,376	-0,170	0,432	0,828
Social media bots are implemented to ensure the security of social media applications	99,79	178,937	0,353	0,366	0,809
I believe social media bots are implanted to prevent people from reading fake news	99,98	178,108	0,341	0,318	0,809
Social media bots are used to spy on social media users	99,98	184,807	0,060	0,298	0,817
Social media bots are put in place to learn people interests from pages they access through social media	99,49	180,602	0,246	0,462	0,812
Social media bots provide users with news that are in line with their interests	99,48	178,300	0,365	0,451	0,808

I am aware of the security settings that are present on social media applications	99,27	176,168	0,384	0,535	0,807
I pay attention to the security settings of the social media applications that I use	99,35	172,562	0,478	0,640	0,804
I understand the importance of implementing security settings on my social media applications	99,00	176,187	0,430	0,576	0,806
I learn about the security measures that are present on social media applications before I can implement them	99,56	173,935	0,423	0,545	0,806
I have security settings implemented on most of my social media applications	99,18	176,453	0,368	0,482	0,808