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**Discussing Controversial Issues on Social Media: Examining the  
Role of Affordances, Fear of Isolation and De-Individuation**

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**Discussing Controversial Issues on Social Media: Examining the Role of  
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**by**

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## **Dedication**

To my family

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## **Abstract**

### **Discussing Controversial Issues on Social Media: Examining the Role of Affordances, Fear of Isolation and De-Individuation**

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The University of Texas at Austin, 2018

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Abstract: This dissertation sought to answer whether people more free to express their opinions on controversial topics on Twitter versus Facebook? Three specific affordances support this question: the networks people engage with on each platform, how identifiable they are to other users, and the visibility of their posts (Treem & Leonardi, 2012). In this dissertation, I draw from three related theoretical frameworks to support my argument: the spiral of silence (SOS), the social identity model of deindividuation effects (SIDE), and affordances theory. The results suggested that there were significant differences between Twitter and Facebook in terms of one's willingness to express opinion. In summary people were more likely to express their opinion on Twitter than Facebook when they think the majority does not support their opinion.

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## **Chapter 1: Introduction**

The pervasive use of social media has created new opportunities for online political discussion. Some scholars have expressed hope that this may support democratic practices by expanding the number of people who participate and talk about politics (Papacharissi, 2002; Noveck, 2009). Specifically, people who have been silent offline might feel more comfortable speaking out online (Price & Cappella, 2002). Much research on social media has focused in general on how users express their political opinions online and how social media use broadly is related to political participation (Gil de Zúñiga, Jung & Valenzuela, 2012; Bond & Messing, 2015). Thus, social media may play an important role in shaping political communication (Kushin & Kitchener, 2009). Social media websites are conducive to political discussions because they have affordances, such as allowing users to post and share information and connect to a large network, that make them attractive for political discussions. In this way, users can easily spread their messages, interact with like-minded others, and access content created by those in their networks (Hampton, Goulet, Rainie, & Purcell, 2011). Thus, a considerable amount of research has focused on the relationship between social media and political engagement, and scholars have mostly focused on frequency of social media use, purpose and motivation of social media use, and network characteristics of social media websites to understand political engagement (Loader, Vromen, & Xenos, 2014; Gil de Zúñiga, Molyneux, & Zheng, 2014; Bond & Messing, 2015). These studies concluded that social media use for information increases political knowledge, political participation, and engagement (boyd, 2010; Gil de Zúñiga et al., 2012; Gil de Zúñiga, Molyneux, & Zheng, 2014; Loader, Vromen, & Xenos, 2014).

However, few studies have examined whether the content of political discussions online vary on different social media platforms (See Halpern & Gibbs, 2012; Oz, Zheng, & Chen, 2017, for notable exceptions). This dissertation aimed to fill this gap by comparing political discussion across two popular social media platforms, Twitter and Facebook, to

understand whether people's willingness to express opinions on controversial issues differs on these two platforms. Specifically, this dissertation examined whether the affordances of Twitter versus Facebook would influence people's willingness to speak out on each platform. Affordances are attributes of a platform that determine how people can use it (Norman, 1989) and include the interactions between the object and the users, and the features of the object (Rice, Evans, Pearce, Sivunen, Vitak & Treem 2017). My main argument is that these affordances will lead people to differ in the extent of their expression of controversial opinions on Twitter versus on Facebook. This is an important area of inquiry because almost 69% of Americans who use at least one social media platform have engaged in political discussions on it (Smith & Anderson, 2018). Facebook and Twitter were chosen for this study because they are among the largest and most predominant social media sites in the United States of America. Twitter, for example, has 76 million users in the U.S., and Facebook has 160 million active users in the U.S. (Statista, 2017).

### **Main Argument of this Dissertation**

The over-arching question this dissertation sought to answer was: Are people more free to express their opinions on controversial topics on Twitter versus Facebook? Three specific affordances support this question: the networks people engage with on each platform, how identifiable they are to other users, and the visibility of their posts (Treem & Leonardi, 2012).

First, I considered the networks people engage with differ on Twitter versus Facebook. People mainly engage with their friends on Facebook (Nadkarni & Hofmann, 2012), but they may follow or to be followed by random strangers on Twitter (Chen, 2011; Himelboim et al., 2013). As a result, people may be less afraid to share a viewpoint that others do not share on Twitter because they do not have to fear being socially isolated by friends if they express a divergent viewpoint. In contrast, on Facebook, they may be afraid to express a differing view because they fear their real friends may not approve of their

opinion. Thus, they may fear perceived social sanctions (Rossler & Schulz, 2014) such as losing real-world relationships (Metzger, 2009) on Facebook to a greater extent than on Twitter. The concept of homophily, which suggests that people's social networks both online and offline will be homogenous because people tend to connect with others who share their viewpoints (Chu & Kim, 2011), is particularly relevant to my argument. Because networks differ on Facebook versus Twitter, I argue that people's networks would be more homophilous on Facebook because it includes their real friends, versus Twitter, which is likely to include more strangers whose viewpoints may not be as readily known. Moreover, according to Pew Research while users have more heterogenous networks on Twitter, they tend to have more homogenous network on Facebook (Gottfried & Shearer, 2016).

Even though Facebook only requires users to provide date of birth, gender, their first and last name to create an account, some studies suggested that people tend to reveal a lot of personal information on Facebook such as their job, education and hometown (Seidman, 2014; Beldad & Hegner, 2016). Thus, it can be argued that people may feel more identifiable on Facebook because users tend to share extensive details about themselves. On Twitter, in contrast, users can employ a made-up name and include no details on their profiles that identify them. As a result, users may feel more deindividuated – which means their online identity is not linked to who they really are (Postmes & Spears, 1998) – on Twitter than on Facebook. Third, Facebook has a network notification system that makes people's posts more visible to their friends than Twitter employs. For example, if a user likes a post or leaves a comment under a Facebook post, then Facebook notifies not only the users who are participating in that post but that person's whole network as well. This Facebook feature makes its users more aware of what other people in their networks are doing, and it increases visibility of Facebook users. In comparison, Twitter sometimes shows tweets to people based on their interests and their follower network, but it is not as specific as Facebook's network notification system.

Based on these three differences between Twitter and Facebook, I posited that people would feel freer to express opinions that differ from others on Twitter than on Facebook. The rationale for this argument is rooted in previous studies (e.g., Ho & McLeod, 2008; Oshagan, 1996) that concluded that people's opinion expression behaviors depend on who they are interacting with (e.g., an intimate friend vs. a complete stranger) and their chosen communication channel. While that previous research compared offline to online expression, I argue that it is equally applicable to comparing Twitter versus Facebook because the friend networks, the identifiability of the participant, and the visibility of posts differ across these two online platforms in similar ways as offline and online spaces vary. Further support comes from research that has found differences in how people communicate on Twitter versus Facebook. For example, Camaj and Santana (2015) found people were more civil and deliberative – expressed differences in opinion in a more rational way – on Facebook. In addition, Oz and colleagues (2017) found the people were more uncivil and less deliberative on Twitter, compared with Facebook. While neither of these studies directly tests my premise, they support the idea that people communicate differently on these two platforms, a main tenet of my argument.

I draw from three related theoretical frameworks to support my argument: the spiral of silence (SOS), the social identity model of deindividuation effects (SIDE), and affordances theory. SOS argues that people tend to monitor their opinion climate, defined as what they believe others think about an issue, before expressing their opinions. If they are in minority then they tend to stay silent to avoid isolation from their network (Noelle-Neumann, 1979). People tend to seek social approval that's why they follow social norms to avoid being rejected or isolated (Noelle-Neuman, 1974). Thus, SOS theory still may influence people's behavior. The theory suggests when people decide to speak against the majority, they may first think that how would the majority punish them for their action (Noelle-Neumann, 1979). Today, new media environments provide a new area for people to engage and interact. The question is whether people behave and act in a way that they did in social environments upon

which the SOS theory built in? Thus, since people may have differing networks, identifiability, and visibility of their posts on Facebook compared with on Twitter, SOS may operate differently on these two platforms. Specifically, I predicted that people would be more likely to stay silent if they hold a viewpoint that differs from others on Facebook – than on Twitter -- because they have networks more likely to be made up of friends, they are more identifiable, and their posts have greater visibility, so their fear of being socially isolated would be greater. For example, a recent study found that people tend to silence themselves when they talk about obtrusive issues with their family members and close friends (Matthes, Knol, & von Sikorski, 2018).

SIDE also fits into my argument because it posits that when people feel deindividuated – they perceive themselves as indistinguishable from others – they will be more likely to express a controversial viewpoint (Postmes & Spears, 1998). Following this reasoning, people would be more likely to express a divergent viewpoint on Twitter because they feel more deindividuated there because the platform has less identifiability and visibility of posts and because their networks may include more strangers. As a result, they would worry more about offending their actual friends on Facebook than on Twitter. Finally, I also drew from affordances theory (Rice et al., 2017) to make my argument that the three affordances I considered – differing networks, identifiability, and visibility of posts – would lead to variations in how free people felt to express political opinions that others may not agree with on Twitter versus Facebook. As a result, I proposed that on Twitter people might feel less social pressure to conform to others’ opinions because they will not fear negative reactions from strangers when they speak out, as they would from friends on Facebook. To test these ideas, I employed an online survey ( $N = 535$ ) of adult Americans.

In chapter 2, I explicate the theories that were used for this dissertation more fully and provide an overview of empirical literature relevant to this dissertation. I also explain online political discussion and both platforms, Facebook and Twitter, in greater detail and put forth specific hypotheses and research questions to test my overall premise. In Chapter

3, I provide detailed information about the methodology, including the research design and measures. Chapter 4 presents the results of my analysis in reference to my research questions and hypotheses. Finally, in Chapter 5, I discuss the theoretical and practical implications of these findings.

## Chapter 2: Literature Review

To understand opinion expression behavior on social media websites, it is important to use a relevant theoretical framework. Theoretical support for this dissertation is drawn from three connected theories, affordances, the spiral of silence (SOS), and the social identity model of deindividuation effects (SIDE). In this chapter, each theory is explained in more detail, and then I propose specific hypotheses and research questions.

### Affordances Theory

Affordances are defined as “possibilities for action...between technology and the user that enables or constrains potential behavioral outcomes in a particular context” (Rice et al., 2017, p. 36). So affordances are not the qualities or features of a technology but how people perceive those qualities and features. Gibson (1986) explained the difference between the qualities of an object and affordances of it. He suggested that “the psychologists assume that objects are composed of their qualities ...color, texture, composition, size shape and features of shape, mass, elasticity, rigidity, and mobility.... But I now suggest that what we perceive when we look at objects are their affordances, not their qualities. We can discriminate the dimensions of difference if required to do so in an experiment, but what the object affords us is what we normally pay attention to” (p. 134).

Overall, affordances are not a feature of technology but “a relationship between the user, the object, and its features” (Rice et al., 2017 p.40). When Gibson first used the term affordances, he gave the animal and environment example. He said “the *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill” (2015, p. 19). Thus “Affordances neither belong to the environment nor the individual, but rather to the relationship between individuals and their perceptions of environments” (Parchoma, 2014, p. 361). Gibson (1982) argued that people also tend to understand their environment through its affordances. It is possible that social media affordances may

influence opinion expression behaviors of the users on social media. Thus, it is important to understand how some affordances may enable or constrain opinion expression in certain way on different social media websites.

Because of the different structure of social media websites, it is possible that some users may imagine different affordances for different social media websites (Nagy & Neff, 2015). Thus, these imagined affordances may alter their willingness to express opinions about a controversial issue on these platforms. Some scholars have pointed out the structure of social media websites may influence usage patterns (Treem & Leonardi, 2012). While it is reasonable to believe that these structural differences may influence users' opinion expression behaviors, this topic has not been investigated sufficiently in the political communication research.

### **Affordances of Twitter and Facebook.**

Even though Twitter and Facebook are both social media websites, they have different characteristics. First of all, while Facebook requires reciprocal relationships, but there is no need for reciprocal approval on Twitter. For example, when people want to add someone as a friend on Facebook, they need to send a friend request and the other side must accept this request. On the other hand, Twitter has one-way relationships. Users can follow anyone they want. So they can follow celebrities, politicians and journalists. Thus while Facebook network may include friends, relatives, and colleagues, in addition to that Twitter users can also follow their weak-ties such as celebrities, politicians, journalists (Valenzuela, Correa. & Gil de Zuniga, 2017).

Besides network characteristics, these platforms have different affordances as well. This dissertation focuses on three specific affordances of social media platforms: friend networks on each platform, visibility of the user, and identifiability of the user's posts.

Scholars argued that lack of visual cues allow people to enjoy freedom from social consequences of their actions. The SIDE theory propose individuals' behavior will be more de-regulated under the conditions in which individuals identity is not salient (Postmes, Spears, & Lea, 1998). Thus, lack of identity and visual cues may encourage people to take action and participate in discussions. Even though neither Facebook nor Twitter is a fully anonymous environment, there are differences between these two social media websites in terms of visibility and identifiability. From this point of view, I speculated that lack of visibility and identifiability may encourage participation. Therefore, I focused on these two affordances (visibility and identifiability) in this dissertation. Another affordances were one's network. Some studies suggested that people's willingness to express their opinion depends on whom they are interacting with (Ho & McLeod, 2008). Therefore, it is possible that people's network may influence their opinion expression behaviors.

The first affordance I will discuss is friend networks on each platform. The concept of homophily is instructive. Homophily is the idea that people tend to connect with similar others, so their networks would likely be homogenous (McPherson et.al., 2001). However, a study by Pew Research (Strom-Gottfried, 2014) has found that Twitter and Facebook differ in terms of the homogeneity of their networks. Specifically, that study found that users have more heterogeneous networks on Twitter and more homogenous network on Facebook. It also found that people tend to connect their weak ties on Twitter, but they connect with their strong ties on Facebook (Gottfried, 2014). While some studies suggested that people tend to have their weak ties on Twitter, some other studies suggested that people have both their strong ties and weak ties on Twitter (Araujo, Neijens, & Vliegenthart, 2017). However, because Twitter has one-way relationship, people can follow their weak ties easily on Twitter. On the other hand, a person has the option of accepting friend requests on Facebook. Thus this two-way relationship may prevent Facebook users to have more weak ties on their Facebook account than on their Twitter account. Strong ties are people's close circle of friends, while weak ties are their acquaintances (Granovetter, 1973). This supports my

argument that the affordance of friend networks on Twitter versus Facebook would lead to differences in how comfortable people feel expressing opinions that they suspect their networks do not share on each of these platforms.

Related to this argument is the idea that people might be concerned more about having agreement with certain people, such as actual friends, than having agreement with other people, such as strangers, about controversial issues. In other words, people will worry more about disagreeing with their friends because they care about these people than they do strangers, with whom they do not have a strong relationship. For example, people may not want to express their opinions on a controversial issue even when the majority support their opinions because of the possibility of upsetting certain people in their network (Fox & Moreland, 2015). Same-sex marriage illustrates this point. If people support same-sex marriage but their parents or close friends are against it, then they may not want to express their opinion on that issue even though a majority of their friend network agrees with them. Basically, sometimes people may have greater concern about their strong ties (friends, families, close ties) perceive them than the rest of their network. Since people have their relatives, friends, close ties on Facebook, it is possible that people may worry more about expression viewpoints on that platform that they believe their network will not agree with. In contrast, I argue that when Twitter users write about a controversial issue on Twitter, they may not worry about the audience because in many cases their followers may not be made up solely of their real friends. On the other hand because users have their friends, relatives and colleagues on Facebook, they may think twice before they express their opinion on a controversial issue on Facebook.

The second affordance I will discuss is visibility. According to Rice et al. (2016), visibility is one of the most important affordances of social media websites. In social media, the notion of visibility is tied to how likely it is that a social media post will reach members of the audience (Treem & Leonardi, 2012). For example, Facebook's network notification system constantly updates a list of stories on people's pages. It includes stories, posts, videos

shared or liked by their friends. This feature of Facebook increases the visibility of its users' posts. Facebook users can like a political Facebook page, and Facebook will notify people's whole networks that this page was liked even if the individual users do not wish that to happen. The same thing will happen when user leaves a comment or like someone else's post on Facebook. Therefore, posts on Facebook have high visibility compared with Twitter. On Twitter, the platform alerts people if one of their followers has favorite or retweeted a post, but this occurs sporadically in a manner that is much harder to detect than on Facebook. Of course, if people have many followers on Twitter then with re-tweets their post may reach greater audience but the argument here is not the possibility of reaching a greater audience but the possibility of unintentionally reaching some unwanted audience. Especially, when Facebook users want to discuss a controversial issue, their high visibility on Facebook may prevent them from joining discussions because they fear their friends or relatives will know they are expressing a viewpoint that may disagree with theirs. I argue that this high visibility on Facebook may lead people to be less likely to share controversial opinions that they believe their network would not agree with because they know their network may see those opinions and think less of them. In contrast, I argue that on Twitter people may not feel as inhibited because their network is not notified as directly as on Facebook when they post something, so they would be less worried about those in their networks seeing their posts that they may not agree with.

The third affordance examined in this dissertation was identifiability. Identifiability is related to the amount of information people reveal about themselves on social media. This affordance is not just about "being visible or seen" but it is about how much personal information is linked to their social media posts (Treem & Leonardi, 2012). The amount of information on social media sites may vary. On Facebook, people must use their real name on their account. They also can reveal where they live, their jobs, their phone number, what they do for a living, their relationship status, and they can even link to their partner's page. Facebook also allows sharing of personal or family photographs and favorite books, movies,

and quotes. But on Twitter, the “about me” section is limited to 160 characters with up to two pictures and allows a link to a website, and Twitter users do not have to reveal their real name on their accounts. Their Twitter identity does not have to be related to their individuating identity, and they don’t have to maintain their offline identity (Walther, DeAndrea, Kim, & Anthony, 2010).

In summary, these three affordances -- differing friend networks, visibility, and identifiability – would make people more likely to express controversial minority views on Twitter than on Facebook. I argue this would occur because people tend to have more homogenous networks of strong ties on Facebook, so they may be hesitant to express viewpoints that offend those they know well. In addition, Facebook notifies members of people’s networks in a more systematic and public way than Twitter does, so that would further encourage people to curb what they say on Facebook. Finally, Facebook allows people to reveal their real identity to a greater extent than Twitter does, which also supports my argument that people would feel less free to express an controversial opinion on Facebook that is more tied to their own identity.

### **Spiral of Silence Theory**

The other theoretical framework for this dissertation was the spiral of silence theory (SOS) developed by Noelle-Neumann (1974). The theory argues that because people fear being socially isolated, they tend to avoid speaking out if they perceive the majority of people do not support their views on controversial issues (Noelle-Neumann, 1974). Overall, researchers have used spiral of silence as a theoretical framework to explain whether people speak out on some controversial topics, such as same sex marriage (Ho, Sims, & Chen, 2013) and gay bullying (Gearhart & Zhang, 2014). Moreover, before expressing their opinion, people may consider future opinion climate as well. Whether current opinions will lose ground or gain ground (Noelle-Neumann, 1974). The process by which SOS operates begins by people observing their environment to assess the current or /and future opinion climate –

what *most people* think about an issue (Hayes et al., 2013). This then leads to make an assessment of whether the majority of people believe about a particular issue. If the majority does not support their opinions, they tend to self-censor their opinions (Gearhart & Zhang, 2014; Ho, Sims, & Chen, 2013) because the fear being socially isolated or other social sanctions. Below, I discuss each of these key concepts that relate to SOS theory in greater detail.

**Opinion climate.** A key concept of SOS is the opinion climate, which is people's assessment of what others' think about issues. Neumann (1979) argued that people assess their opinion climate by evaluating the beliefs of people they know as well as how the media presents viewpoints. However, some scholars have argued that while the influence of mass media on individuals' political expression behaviors was overestimated, some interpersonal influences were ignored (Katz, 1981). Mass media are not the only option for people to monitor climate of opinion. The changing media environment has led scholars to re-think the concept of opinion climates. Today, the Internet allows people to more directly to observe the opinion climate in their networks. Neumann (1993) sees public opinion as a social-control tool. She devised the theory in an attempt to explain public opinion as a dynamic process, rather than merely a static state (Shoemaker, Breen & Stamper, 2000). Neumann suggested that public opinion changes over time and depends on the climate of opinion (Neumann, 1984). She suggests that public opinion is a social influence process and people's opinion expression behaviors may be influenced by peer pressure (Noelle-Neumann, 1993). From Neumann's point of view, the opinion climate is individuals' perception of public opinion. Basically, opinion climate refers to perceived popular opinion and in this sense it is different than public opinion (Sutherland & Galloway 1981). People assess their opinion climate through two means – what their friends and neighbors think and what the mass media tells them that society more generally thinks (Noelle-Neumann, 1993). As a result, media reports affect people's willingness to express their opinion (Porten-Chee & Eilders, 2015). While the SOS assumes opinion climate influences opinion expression, other factors may influence

this relationship. For example, the theory suggests that the hardcore individuals – people with very firmly entrenched views – may express their opinions regardless of the climate. Moreover, the mass media may influence individuals’ perception of the opinion climate and play a significant role in the spiraling process of silencing minority viewpoints. The mass media shows people what the majority viewpoint is, and, if people feel the majority does not support their opinion, then they may stay silent. In this way, the majority-supported opinions gain ground and other opinions lose ground (Neumann, 1974).

However, in today’s fragmented media environment the mass media may exert less influence than in the past because people can select what media to expose themselves to, and this selective exposure may bias people’s perception of climate opinion (Tsfati, Stroud, & Chotiner, 2014). As Woong-Yun and Park (2011) suggested “It is not very clear where offline communication ends and online communication begins..... Merging of traditional media and online media suggests that the theories of traditional mass communication are still relevant for many types” of computer-mediated communication (p. 202). As a result, spiral of silence theory needs to be revisited due to the changes in this media environment. While many scholars have tested the theory in a computer-mediated environment (Nekmat & Gonzenbach, 2013; Tsfati et al., 2014) it is still important to examine the relationship between opinion expression and social media platforms. Thus, this dissertation examined whether the SOS operates in different ways on Twitter as opposed to Facebook.

**Fear of isolation.** In her book, Neumann (1984) introduced one of the most important concepts of the SOS: fear of isolation. To explain the fear of isolation concept, Neumann cited Gabriel de Tarde & Clark (1969) and mentioned how the “social nature” of human beings influences individuals’ opinion expression behavior. Neumann (1984) stated, “Our social nature causes us to fear separation and isolation from our fellows and to want to be respected and liked by them” (p. 41). So Neumann (1974) defined fear of isolation as fear from being isolated from one’s social environment. She suggests that many people are afraid of being isolated from their network and because of the social nature of human beings, they

want to be respected and popular (Neumann, 1974). Neumann suggested (1993) that the fear of isolation is the key variable of the theory because it encourages people to assess their opinion climate and estimate whether their opinions fit those of the general public.

The theory suggests people may not express their opinions because they fear being socially isolated if they express a viewpoint that others disdain (Neumann, 1993). However, if individuals think their opinion to be in the majority, they will be more likely to express their opinions. After her study, Neumann (1993) found that two concepts motivate people to change their opinions: learning something new about the topic or to avoid fear of isolation. When others in people's social network agree with them, they can express their opinions without fear of isolation. However, if their opinions are not supported by a majority of their network, then they risk being criticized by others for sharing it (Neumann, 1984). Psychological research also supports Neumann's concept of fear of isolation. For example, some researchers suggested that fear of negative evaluation leads to negative self-image (Schlenker & Leary, 1982). Therefore, individuals tend to conform to group norms to avoid negative evaluation (Leary & Atherton, 1986). Watson and Friend (1986) defined fear of negative evaluation as avoidance of evaluative situations.

Fear of isolation may operate in different forms. Individuals may not fear isolation directly, but they may fear an expected sanction, such as being excluded from the group or being avoided in their network. In this sense, Neumann's concepts of fear of isolation and fear of social sanctions are very closely related. Research from psychology also supports the importance of the fear of isolation variable on the public opinion process (Leary & Atherton, 1986). In this sense, public opinion is an "opinion which can be voiced in public without fear of sanctions" (Noelle-Neumann, 1977, p. 145) or "controversial opinions one is able to express in public without becoming isolated" (Noelle-Neumann, 1974, p. 44).

Basically, individuals tend to consider how their network may react to their opinions they may express. Thus, they prefer to stay silent instead of expressing their opinion on a

controversial issue. If individuals do not expect any sanctions from their social network, then they are likely to express their opinion in these environments.

Thus, in this dissertation, I argued that the intensity of the “threat of being excluded or losing one’s standing in society” (Neumann, 1993, p.179) that people experience when they feel their views are part of the minority, depends on the factors such as the general characteristics of a communication space. In other words, they may fear being socially excluded more by their strong ties on Facebook where there posts are more visibility to their network and their real identity is more prominent, compared with Twitter.

**Social sanctions.** Spiral of silence theory proposes that the violators of social standards may face censure and blame called social sanctions (Neumann, 1986), which is essentially social disapproval from their network. Some empirical studies suggested that in offline environments the majority may impose social sanctions on individuals and these social sanctions may influence individuals’ willingness to express their opinions (Brandtzaeg, Staksrud, Hagen, & Wold, 2009) and influence people’s opinion expression behavior (Neumann, 1979). Previous studies suggested that people expect “punishments” from their network when they express a deviant opinion (Jeffres, Neuendorf, & Atkin, 1999). Neumann stated that one of these punishments, or sanctions, is fear of being isolated (Neumann, 1979). However expected punishments from people’s network could be diverse. People might not only fear social isolation but also other negative sanctions, such as negative evaluations or even personal attacks. What social sanctions people may fear depends in part on the communication environment (Rossler & Schulz, 2014). For example, on social media websites where people have their strong ties as well as their weak ties might amplify users’ perceived social sanctions (Neubaum & Kramer, 2016). This supports my argument that people would have a greater fear of social sanctions on Facebook amid their strong ties because they would be more concerned about negative evaluations, social isolation, or even personal attacks from their close friends than from strangers on Twitter.

As a result, they would be less likely to express a controversial minority opinion on Facebook.

### **Other variables that influence SOS**

While the spiral of silence has drawn a great deal of attention from scholars, some researchers have criticized the theory. The main criticism is that the theory is not complete. Some other variables such as issue importance, issue knowledge, and communication apprehension might also influence individuals' willingness to express their opinions; therefore, some scholars stated that it was difficult to draw a conclusion on opinion expression by using this theory (Neuwirth, Frederick, & Mayo, 2007). Next I will explain each of these other variables that influence how SOS operates.

**Issue importance.** Research suggests that “people do not pay attention to everything” (Lyengar & Kinder, 1987, p.64), but they tend to pay attention to issues that they consider important (McCombs & Shaw, 1972). So issue importance is related to individuals' feelings toward an issue. If individuals have strong feelings toward an issue then it means that this issue is important to them. The literature suggests that the issue importance variable is also a strong, positive predictor of an individuals' willingness to express an opinion about a controversial topic (Moy et al., 2001, Matthes, 2015). Studies have shown that issue importance is a moderator of opinion formation (Althaus & Tewksbury, 2002; Kioussis, 2005). This means individuals evaluate politicians or political parties based on the issue that is important to them (Fornier, Blais, Nadeau, Gidengil, & Nevitte, 2003). Issue importance plays an important role in individuals' outspokenness, producing a positive effect in a cross-cultural context, (Lee et al., 2004).

While the literature found a significant relationship between issue importance and individuals' willingness to express an opinion about a controversial topic (Mutz, 1989), on certain social media websites, such as Facebook, individuals might not want to take the risk of being isolated from their networks (Moy et al., 2001, Matthes et al., 2010) even if an issue

is very important to them. Thus, some variables may not work in different social media websites, and they may not be strong enough to encourage people to overcome fear of isolation and express their opinion. As a result, in this dissertation issue importance is used as a key variable to understand how opinion expression differs on Facebook versus Twitter.

**Issue Knowledge.** Another important variable for this study is issue knowledge, which is how knowledgeable people are about a certain topic (Tan, 1980). Issue knowledge has always been considered an important part of public opinion because it is related to whether people will express an opinion on a topic (Barber, 1972; Gabriel, 2004).

Some studies concluded that there is a positive relationship between high knowledge and political participation (Carpini & Keeter, 1996; Nicholson et. al., 2006). Also, some other studies concluded that issue interest and knowledge are positively related to speaking out about a controversial topic (Salmon & Neuwirth 1990). Some scholars have introduced the issue knowledge variable as a motivation variable in the spiral of silence process (Andreasen & Thompson, 1985). According to Baldassare and Katz (1996) the more people know about a particular issue, the more likely they are to express their opinion in public about that issue. They have argued that lack of knowledge may lead to silence. If individuals are knowledgeable about an issue, this knowledge may motivate them to participate in discussions (Baldassare & Katz, 1996). On the other hand, some researchers suggest that people who have less knowledge about an issue are more likely to speak out on social media (Hampton, Rainie, Lu, Dwyer, Shin, & Purcell, 2014). Overall, research suggests that issue knowledge is one of the important variables that predict one's political engagement. (Gil de Zúñiga et al., 2012).

High knowledge about an issue encourages people to participate in politics (Carpini & Keeter, 1996), and it affects one's political expression behaviors (Neumann, 1986). While in most cases issue knowledge predicts more opinion expression, this relationship may differ in some social media websites. Even if individuals have high issue knowledge, they might

not want to express their opinions in an environment – such as Facebook – where they can be identified, are visible, and their network includes strong ties like family and close friends because perceived social sanctions are high. Individuals may fear that their close friends will enact social sanctions like unfriending, blocking, or even withdrawing their friendship in real life if they express a controversial opinion that those people do not agree with on Facebook. In contrast, on Twitter, where their network includes more weak ties, and they are less identified and their posts are less visible, issue knowledge would play a stronger role in leading to opinion expression. Thus, I predicted that even though individuals have high knowledge about an issue, they might not want to express their opinion on a controversial issue because of higher fear of social sanctions on Facebook compared with on Twitter.

**Communication apprehension.** According to McCroskey & Richmond (1979) communication apprehension is “an individual’s level of fear or anxiety associated with either real or anticipated communication with another person or persons” (p. 78). People who have high communication apprehension tend to interact less with strangers (McCroskey & Sheahan, 1978). Some scholars argued that besides climate of opinion, communication apprehension might also have significant negative influences on people’s opinion expression behavior (Neuwirth et al., 2007; Lee et al., 2004). Papacharissi and Rubin (2000) argued that since the internet provide some sort of anonymity, people who experience communication apprehension may be more willing to express their opinion on online spaces. Papacharissi and Rubin’s argument was supported by several other studies. For example, some scholars tested anonymous environments and found that people tend to experience less communication apprehension on anonymous online environments than in face-to-face interactions (Hammick & Lee, 2014). On the other hand, Hunt, Atkin & Krishman (2012) found that communication apprehension negatively affected Facebook use for interpersonal communication on Facebook. Overall, communication apprehension is an important variable to predict one’s willingness to express opinion on social media websites. Thus, in this dissertation communication apprehension was used as a control variable.

## **Spiral of Silence Theory and Online Media**

Every year, a large number of people engage in politics on social media websites by expressing their opinions, commenting on political content, or joining discussions about a public (Smith, Lehman Schlozman, Verba, & Brady, 2009; Brodock, Joyce, & Zaeck, 2009). Therefore, understanding what role the SOS plays in this form of mediated opinion expression remains important. When Noelle-Neumann introduced spiral of silence in 1974, the Internet and social media did not exist and the media environment was different than today's media environment. This altered media environment presents opportunities for understanding how SOS operates online.

For example, Internet optimists claim that the online space allows users to perceive opinion climate more accurately than they do on offline spaces (Schulz & Roessler, 2012). Therefore, it is possible that perceived opinion climate might influence one's opinion expression online. Spiral of silence scholars especially focused on how users use online platforms to express their opinions. Some scholar suggested that users might not want to challenge the majority opinion if they have a large online network (Sohn & Geidner, 2015; Jang, Lee, & Park, 2014). However, much research has found that SOS operates similarly online as it does offline. SOS studies in different online contexts, such as social media websites (Fox & Warber, 2015), chat rooms (Ho & McLeod, 2008), bulletin board discussions (McDevitt et al., 2003), online reviewing websites (Askay, 2015), and anonymous online spaces (Yun & Park, 2011), and they found that people tend to avoid expressing their opinion if their perceived climate opinion does not support their viewpoint. This mirrors the way SOS operates offline.

However, the online space has one key difference from the offline context because online spaces offer some sort of anonymity. Some scholars have argued that anonymous environments may positively influence opinion expression because fear of isolation may vanish when people's identity cannot be linked to their words. However, the studies

suggested mixed results. For example, Yun and Park (2011) tested spiral of silence theory in both anonymous and non-anonymous online spaces, and they found that there was no difference between these environments in terms of spiral of silence process. Wanta and Dimitrova (2000), on the other hand, tested the theory on anonymous chat rooms and found SOS operated normally in this space. In another study, McDevitt, Kiouisis, and Wahl-Jorgensen (2003) examined anonymous chat rooms and found that minority groups expressed their opinions more than the majority. Overall, the research on spiral of silence theory in anonymous and non-anonymous online spaces found mixed results.

Social media websites provide information about what others think about an issue and how they respond to it (Rossler & Shulz, 2012). With this information, social media users can assess the climate of opinion in their networks. Thus, social media is an appropriate lab for testing spiral of silence process. Some researchers focused on social media websites in terms of spiral of silence process. For example, Metzger (2009) stated that Facebook is an important platform to test the spiral of silence process because users' networks on Facebook are based on real-world relationships. It is possible that users may have high fear of isolation on Facebook because real world relationships may "result from appearing unpopular or otherwise socially undesirable within these networks." (Metzger, 2009, p. 571). A Pew study, on the other hand, reported that people are less likely to express their opinion on a controversial issue on social media if their network does not agree with them and there is no difference between offline settings and social media in terms of one's willingness to express opinion on a controversial issue (Hampton et.al., 2014). Since social media websites are platforms for interpersonal relationships, people can assess climate opinion on these websites and social media users expose mass media through social media posts (Perse, 2001), testing spiral of silence theory on social media environments will provide better understanding of people's opinion expression behavior.

## **The Social Identity Model of De-individuation (SIDE model)**

To understand how situational factors influence opinion expression behavior in online environments, another theoretical framework, the Social Identity Model of Deindividuation (SIDE) (Reicher et al., 1995), was used in this dissertation. The SIDE model suggests that as a result of reduced self-awareness and reduced identifiability, a de-individuation effect occurs. De-individuated people “do not feel that they stand out as individuals” (Festinger, Pepitone, and Newcomb, 1952, p. 125). As a result, de-individuation reduces their inner restraint against performing individually desirable but socially undesirable behavior (Festinger, et al., 1952). According to the model, if individuals feel less identifiable in a group, then this may cause the loss of self-identity and the loss of self-identity may influence individuals’ behaviors (Lea & Spears, 1991). Festinger et al., 1952) explained the term de-individuation as the influence of a crowd on people’s behaviors. They claimed that because of the effect of a crowd or a group, people are “able to indulge in forms of behavior in which, when alone, they would not indulge” (Festinger et al., 1952, p. 382). Basically the SIDE model suggests acting with a group or with a crowd may result loss of self-identity (Festinger et al., 1952). This loss of self-identity may encourage these individuals to act more aggressively than normal and they may not worry about social norms or/and social sanctions (Diener, 1980). Overall, de-individuation may encourage them to speak out about a controversial issue and they may not afraid of social sanctions.

In relation to the SIDE model, anonymity may also contribute to de-individuation and may encourage socially undesirable behaviors (Diener, 1980). Scholars suggested that anonymity protects people from social sanctions and contributes to individuals’ loss of self-identity (Mann, Newton, & Innes, 1982). Zimbardo (1969) focused on visual anonymity to test the SIDE theory, and he found that lack of visual cues might have negative consequences, such as resulting in aggressive behavior. Scholars suggested both the loss of self-identity and anonymity may reduce evaluation concerns (Festinger et al., 1952; Prentice-Dunn & Rogers, 1982, 1989) and influence people’s likelihood to express opinions (Diener et al.,

1980; Festinger et al., 1952). On the other hand, anonymity is not a requirement for the de-individuation effect. People may feel de-individuated even when they are not anonymous. As the SIDE model suggests, users may feel de-individuated when they think their identifiability and visibility are low (Ellmers, Spears & Doosje, 2002). SIDE aims to explain the importance of visibility and identifiability in a group context (Reicher et al., 1995). Essentially, the theory suggests that lack of visibility and identifiability can reduce self-awareness, or even cause de-individuation (Festinger et al., 1952; Diener et al., 1980). Because of the lack of visual cues online, there may be a greater feeling of perceived de-individuation, social evaluation is likely to be undermined (Postmes & Spears, 1998), and users' fear of isolation may be decreased. Basically, when people feel like their actions cannot be linked to them, they are likely to feel de-individuated. For example, in a crowded protest people may feel that the group hides them, and so they may feel less accountable for their acts and may feel uninhibited (Reicher et al., 1995).

This idea relates direction to the main argument of this dissertation – that people would be more willing to speak out about a controversial topic on Twitter than on Facebook. My rationale is that because people tend to associate with strangers or acquaintances on Twitter (Chen, 2011; Himelboim, 2015), rather than close friends, they would feel more “hidden in the crowd” – or deindividuated on Twitter. In addition, the SIDE model argues that the lack of social cues such as low visibility and identifiability in the digital space may encourage individuals to ignore social norms (Postmes, Spears, & Lea, 1998) in their behavior. Thus, this feeling of being less identifiable (Yu & Park, 2011) may lead to a “loss of selfhood and sense of control over behavior” (Reicher et al., 1979, p.161). As a result, people on Twitter would feel emboldened to express viewpoints that they know might not jibe with others within their network because they would feel the comments would be less linked to their real identities.

Now, I will explain how SIDE and SOS relate to these affordances, and then I will explore how tie strength and network homogeneity affect that. At the end of this chapter I will propose specific research questions and hypotheses.

All these three theories, SIDE, SOS, and affordances theory, attempt to explain individuals' behaviors on online and offline environments. While the spiral of silence suggests that fear of isolation may influence people's opinion expression behaviors, SIDE suggests that if people feel de-individuated then they may feel less restricted and may express their opinions freely.

The new communication technologies allow users to isolate themselves physically and have some anonymity. While lack of social cues may promote more hostile and impolite behaviors (Jessup, Connolly, & Tansik, 1990; Santana, 2014; Rowe, 2015,), it may also encourage individual to discuss controversial issues in that kind of environment (Rowe, 2015). Because of the lack of visual cues, there may be a greater feeling of perceived de-individuation. As a result social evaluation is likely to be undermined (Postmes & Spears, 1998) and users' fear of isolation may be decreased. Thus, some scholars also argued that lack of visibility and identifiability are an opportunity for freedom of expression (Yu & Liu, 2009). The SIDE model suggests individuals' opinion expression behavior depends on some affordances such as individuals' identifiability and their knowledge about others in the group. For example, Rossler and Schulz (2012) defined several communication situations, and they concluded that higher identifiability leads to higher orientation toward group norms.

From this point of view, some environments, such as Facebook provide more knowledge of others (identifiability)—through such affordances as requiring a real name or a name and profile—and high visibility for individuals. On the other hand some other social media websites, like Twitter, provide less visibility and less knowledge about users. Related to these points some researchers suggested that while Facebook is more “private oriented,” Twitter is more “public-oriented” social media website (Su, Lee & Lin, 2017). Thus, it is

possible that Twitter may be a more open place for people to express their ideas, Facebook may be a less open place because of the nature of its friendship-based structure. In addition, because of Facebook's affordances, the site may add greater accountability to users' interactions with others (Santana, 2014; Oz, 2015).

Thus, this dissertation predicted that while on Twitter the level of people's de-individuation may lower their fear of isolation and because they feel de-individuated and their social identity would be less salient on these platforms. This situation may encourage them to express their opinion without fewer social restrictions because they do not feel their actions can be connected back to them. On the other hand, on other social media platforms, such as Facebook, people do not feel as de-individuated because Facebook requires real names, reveal a lot of personal information and people maintains their existing relationships on Facebook. Therefore, fear of social isolation (as SOS suggests) may not influence individual's willingness to share their opinion on social media if individual feels de-individuated (as SIDE suggests) on that website. Overall, this study aims to explain how three affordances – differing networks, visibility of posts, and identifiability of the user -- may influence the SOS and SIDE process and aims to understand whether individuals' willingness to share their opinions about a controversial issue differ on Facebook versus Twitter.

### **Online Political Discussions and Avoidance/ Participation strategies**

Political discussion is considered by scholars to be an important method for learning about political affairs. Kim, Wyatt and Katz (1999) described political discussion as the "soul of democracy" (p. 362). The literature suggests that people benefit from political discussion. According to the scholars political discussions provide knowledge that help people form opinions (Eveland & Thompson, 2006), increase political participation (Eveland & Hively, 2009), learn about politics (McLeod, Scheufele, & Moy, 1999), and can influence voter choice (Huckfeldt & Sprague, 1995). Overall political discussions contribute to the

democratic process (Carpini et al., 2004). However, in some cases, individuals may not want to join political discussions and prefer to avoid from them. People tend to express their opinion if they think the majority supports their opinion. SOS suggests that people tend to observe the opinion climate before they express their opinions. If they feel their views are not in the majority, then they may avoid discussions because perceived climate opinion increase their fear of isolation. Thus, that high fear of isolation may cause avoidance (Noelle-Neumann, 1993; Hayes et al., 2005). Essentially, people avoid expressing opinions to avoid risks (Afifi & Guerrero, 2000). Researchers concluded that individuals regularly avoid directly expressing their opinions about politics and they use some avoidance strategies (Eliasoph, 1998; Noelle-Neumann, 1993). Recent research suggested that avoidance and expressing opinion are not mutually exclusive. People can avoid topics about which they have already disclosed feelings (Caughlin & Golish, 2002). In some cases people still express their opinion regardless of the climate of opinion if they feel strongly about an issue (Noelle-Neumann, 1993). However, if the cost of sanctions is high, then people with high attitude strength may use avoidance strategies to express their opinions indirectly. The avoidance strategies that this dissertation considered are expressing opinion in a balanced way, expressing uncertainty, pretending to agree with majority (even though have different opinion), expressing someone else's opinion instead of their own opinion. When people use avoidance strategies, they do not take risks but still express their opinion indirectly about the issue. For example, the Internet user may like a post or share it instead of expressing their opinion directly on that issue. In this way they can avoid the threat of isolation and social sanctions (Brown & Levinson, 1987), but they do not refrain fully from expressing their opinions. The literature confirms that individuals are likely to use some avoidance strategies when they feel that the environment is hostile and the fear of isolation is high (Hayes, 2007).

Mutz (2006) suggested that individuals are more likely to participate if they think their environment is safe and supportive. Mutz's findings pose a challenge for this study in several ways. First of all, according to Mutz (2006), homogenous networks provide safer

environments for opinion expression. However, in this dissertation, I proposed that individuals on Twitter (less-homogeneous than Facebook) will be more likely to express their opinion than the more homogeneous Facebook. The logic behind this idea is that an individual's fear of isolation may be higher when expressing opinion among family and friends (Neuwirth & Frederick, 2004; Priest, 2006) in a more homogenous network because perceived social sanctions are high. The closeness of relationships on networks may influence users' opinion expression behaviors in homogenous networks. It is possible that sometimes people may not want to upset their key ties therefore they may avoid expressing their opinion even though the majority of their network support their opinion. If people agree with their key ties on Facebook, they are likely to express their opinion. If they disagree with them on Facebook then that individual may not want to engage in a controversial discussion on that kind of network. On Twitter, however, people would be influenced less by either the network or tie strength, so they would be more likely to share their views.

Researchers also found that Twitter users “imagined their audience as a fan base or community with whom they could connect or manage” rather than close friends or family members (Marwick, 2011, p.16). The literature suggests that while Facebook users' are likely to have strong ties to their network, Twitter users have more weak ties than strong ties (Chen, 2015; Bonds-Raacke and Raacke, 2010; Christofides, Muise, and Desmarais, 2009). Therefore, individuals may discuss issues more on Twitter than on Facebook. Some scholars suggested that individuals tend to find like-minded others on Twitter (Himmelboim et. al., 2013). Even though Twitter weak-tie networks have been found to be homogenous (Himmelboim et al., 2013), Neuwirth et al., (1990) claimed that people are less likely to fear from isolation when they are among strangers but their fear of isolation increase when they are with their close friends or frequent contacts. Thus, in this study individuals would be expected to feel fear of isolation less on Twitter than Facebook. Moreover, while people tend to find like-minded users on Twitter, they are more likely to interact with non-like-minded users on Twitter than on Facebook because of the structure of Twitter. Metzger

(2009) suggested that SOS may still play in an important role on certain social media websites, especially if the relationship on these social media website is based upon real-world relationships. Therefore, it was predicted that individuals' willingness to express opinions might be different on Facebook than Twitter.

Overall, drawing on Affordances, SOS and SIDE , this dissertation assumes that fear of isolation and de-individuation effect will influence people's opinion expression on social media websites but this effect will be different on Facebook than on Twitter. I argue that there will be differences between the two social-networking sites because of different affordances on these social media websites. For example, people may feel more identified on Facebook than they do on Twitter. On Facebook people tend to use their real names and they reveal more personal information on Facebook than they do on Twitter. Thus, visibility is one of important affordances on social media and it is possible that it may affect user's opinion expression behaviors. Therefore, I predicted that people will feel less comfortable expressing a controversial viewpoint on Facebook than on Twitter when the majority did not support their opinion. Moreover, high identifiability and high knowledge about others in the individuals' network will influence the individuals' perceived fear of isolation and perceived social sanctions. For example, Halpern and Gibbs (2013) found that de-individuation effects were less on Facebook than YouTube; therefore, Facebook users were more polite during political discussions than YouTube users. Moreover, some recent studies found that higher identifiability makes individuals more accountable for their interactions on social media platforms (Halpern & Gibbs, 2013; Oz, 2015), making users less likely to speak out on a controversial issue if they feel the majority of people do not support their views in these kind of environments. Several studies pointed out that the de-individuation effect might influence individual's online political behaviors on social media websites (Halpern & Gibbs, 2013). Thus, it is possible that some affordances such as visibility and identifiability may cause de-individuation and because de-individuated users will not fear isolation and social sanctions

as much, they will be more willing to express opinion on a controversial issue than users who don't feel de-individualized on social media websites.

Overall, this dissertation examined whether people operate differently in different social media platforms. In the light of SOS, SIDE and affordances theories, this dissertation aims to explain why there may be differences in how people express political opinions on Facebook versus Twitter.

### **Hypothesis and Research Questions**

Based on the literature review, the first set of six hypotheses and two research questions are proposed

RQ1: To what extent does issue importance affect individuals' willingness to express opinions on a) Twitter and b) Facebook when they believe the majority does not support their opinions?

RQ2: To what extent does issue knowledge affect individuals' willingness to express opinions on a) Twitter and b) Facebook when they believe the majority does not support their opinions?

H1: Participants will more likely to use avoidance strategies on Facebook than they do on Twitter when the majority did not support their opinions.

H2: Users will be more likely to express their opinions about a controversial issue on Twitter than on Facebook when they are disagreeing with their network on a controversial issue.

H3: Users' perceived fear of isolation will be higher on Facebook than on Twitter

H4: Users' perceived fear of personal attacks will be higher on Twitter than on Facebook.

H5: Users' perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Facebook.

H6: Users' perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Twitter.

## Chapter 3: Methodology

This chapter provides an explanation of research design, procedures, and measures. To test the hypotheses and answer the research questions, an online survey ( $N = 535$ ) was used. Qualtrics survey company was paid \$1,250 to recruit 540 survey respondents, who were compensated for their time by Qualtrics. The respondents of this study were composed of social media users (both Facebook and Twitter) who are 18 and older. The Target population of this dissertation was the U.S population. Thus, Qualtrics was asked to provide a “U.S. Census” survey sample. Specifically Qualtrics was asked to provide percentages of each racial group and gender that mirror the population of the United States’ racial and gender breakdown. Overall, this sample is comparable with the U.S. Census data (See table 1). Respondents took the 16-questions survey through an online platform on their own computers. However, it is important to note that my aim was to have a sample of Facebook and Twitter users, so my sample is not representative of the U.S. adult population.

### Sample

Five Five respondents did not complete the survey, so their data were removed, reducing the sample to 535. Table 1 shows the demographics of this study’s participants in comparison with the U.S. Census. The Pew Research reported the internet users were younger and more educated than the general population (Pew Research Center, 2018). According to Table 1, the respondents of this study are younger and better educated than the general population. Moreover, the Pew Research Center reported that similar to the sample of this study, the two biggest social media groups were people between the ages 18-24 and 25-34. There were 277 male (50.1 %) and 258 female (49.9%) respondents. Median ages of respondents were 35 ( $M = 36$ ,  $SD = 14.5$ ). Around 40% of the respondents reported that they have high school degree or less education. The rest of the respondents (60%) reported that they have at least some college degree, college degree or graduate degree.

Table 1: Demographic Characteristics

	Survey Participants (%) (N = 535)	U.S. Census (%) (2010)
<b>Age:</b>		
Under 18	- <sup>a</sup>	23.2
18-24	18.5	11.1
25-34	31.4	13.5
35-44	19.2	13
45-64	18	26.4
65 and more	12.9	12.8
<b>Gender:</b>		
Female	49.9	49.2
Male	50.1	50.8
<b>Race/Ethnicity:</b>		
White	78.3	64.5
Hispanic	10.1	16.3
Black/African American	7.4	12.8
Asian	3.2	4.7
Native American	-	0.9
Other	1	-
<b>Education:</b>		
High School or less	40.1	43.1
Some college	29.5	26.4
College degree	21.7	19.5
Graduate degree	8.7	10.9
<b>Household income:</b>		
Less than \$49,999	51.3	46.3
\$50,000 to 99,999	39.7	29.1
\$100,000 or more	9	20.3

<sup>a</sup> no participants under 18

## Dependent Variable

**Willingness to express opinion.** This variable was operationalized based on prior research (Moy et al., 2001; Neuwirth et al., 2007; Priest, 2006). Respondents rated on a 1 (*not likely at all*) to 5 (*most likely*) scale how willing they would be to express their opinion in a series of situations. They were asked each rate their opinion separately for Twitter and for Facebook. The statement for Twitter was: “Think of a controversial issue in which you disagree with most Twitter followers. How likely are you to participate in a discussion on this issue on Twitter?” ( $M = 3.68, SD = 1.15$ ).

The statement for Facebook was: “Think of a controversial issue in which you disagree with most Facebook friends. How likely are you to participate in a discussion on this issue on Facebook?” ( $M = 2.95, SD = 1.19$ ).

**Social Sanctions.** The social sanctions variable was assessed based on the measure from Neubaum and Krämer (2016). Respondents were asked, “Please think about a controversial issue in which you disagree with the majority of Facebook friends. If you express your opinion on that issue on Facebook, what sanctions would you expect from Facebook friends?” ( $M = 3.7, SD = 1.18$ ). And “Please think about a controversial issue in which you disagree with the majority of Twitter followers. If you express your opinion on that issue on Facebook, what sanctions would you expect from Twitter followers?” ( $M = 2.6, SD = 1.20$ ).

Five measures were used to assess the respondent’s expected social sanctions on Facebook (See Table 2). The categories of social sanctions were “I would fear being excluded by others, I would fear being verbally attacked by others, I would fear losing important relationship (being rejected) by others, I would fear being insulted by others and I would fear being avoided by others.” A principal components analysis (PCA) was conducted to isolate factors within those measures. Since factors were not highly correlated, orthogonal varimax rotation was used. Based on eigenvalues and scree plot test (Catell, 1966), the PCA suggested

a two-factor solution (See Table 2). Eigenvalues for first factor was 4.5 and it was 3.6 for the second factor. Both factors had high reliability. The first factor was “fear of isolation” ( $M = 3.14$ ,  $SD = 1.28$ , Cronbach’s  $\alpha = .90$ ), which referred to fear of being excluded or isolated and explained 69% of total variance. The second factor was fear of personal attack ( $M = 3.14$ ,  $SD = 1.28$ , Cronbach’s  $\alpha = .90$ ), which referred to rude and uncivil attacks and explained 16% of total.

Table 2: Factor Loadings (principal component analysis with varimax rotation) of the two Factors Representing Expected Sanctions on Facebook and Twitter

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Factor 1</i>	<i>Factor 2</i>
<i>Fear of...</i>			<i>Fear of isolation</i>	<i>Fear of personal attack</i>
Being excluded	3.29	1.26	.90	
Being avoided	3.33	1.24	.87	
Being rejected	3.35	1.24	.86	
Being insulted	3.13	1.25		.90
Being verbally attacked	3.15	1.36		.90
% of total variance explained			69%	16%
Cronbach's $\alpha$			.84	.90

**Issue Importance.** This variable was assessed using a measure from Haddock et al. (1999), Krosnick et al. (1993), and Neuwirth et al. (2007). Respondents rated on a 1 (*not important at all*) to 5 (*extremely important*) scale their responses to the following: “Still thinking about the same issue in which you disagree with most Facebook friends. How is this issue IMPORTANT to you?” ( $M = 3.1$ ,  $SD = 1.24$ ) and “Still thinking about the same issue in which you disagree with most Twitter followers. How is this issue IMPORTANT to you?” ( $M = 3.3$ ,  $SD = 1.28$ ).

**Issue Knowledge.** This variable was assessed self-reported knowledge about the controversial issue based on Krosnick et.al. (1993). The participants were asked to rate on a 1 (*not knowledgeable at all*) to 5 (*extremely knowledgeable*) scale regarding these statements. “Still thinking about the same issue in which you are disagree with most Facebook friends. Overall, how KNOWLEDGEABLE would you say you are about the issue?” ( $M = 3.4, SD = 1.19$ ) and “Still thinking about the same issue in which you are disagree with most Twitter followers. Overall, how KNOWLEDGEABLE would you say you are about the issue?” ( $M = 3.1, SD = 1.21$ ).

**Communication apprehension.** Five questions assessed trait-based communication apprehension, specifically focusing on social media communication apprehension based on items by Hunt, Atkin and Krishnan (2012), Neuwirth et al. (2007), and Wrench and Punyanunt-Carter (2007). Their measures were based on the initial Personal Report of Communication Apprehension (PRCA-24) scale by McCroskey (1978), which was shown to be highly reliable with Cronbach’s alpha levels regularly exceeding the .90 level (McCroskey, 1982). Respondents rated on a 1 (*fully disagree*) to 5 (*fully agree*) scale regarding these statements. The following four statements were indexed into one variable ( $M = 2.7, SD = 1.23, Cronbach’s \alpha = .89$ ).

- “Engaging in a group discussion with new people makes me nervous.”
- “I’m afraid to express my opinion.”
- “I am nervous while participating in group discussions.”
- “I dislike participating in-group discussions.”

**Avoidance Strategies.** Four different avoidance strategies were used to understand whether the respondent use these strategies on Twitter or on Facebook when the majority does not support their opinion. For each item, respondents rated how likely they would employ the strategy on a 1 (*extremely unlikely*) to 5 (*extremely likely*) scale.

Strategy 1: “Think of a controversial issue in which you disagree with most of your Facebook friends. How likely you would present your arguments in a balanced way on Facebook?” ( $M = 3.4, SD = 1.41$ ); “Think of a controversial issue in which you disagree with most of your Twitter followers. How likely you would present your arguments in a balanced way on Twitter?” ( $M = 2.9, SD = 1.54$ ).

Strategy 2: The second avoidance strategy was expressing uncertainty about the topic when the majority does not support respondents’ opinion. Respondents were asked to indicate how likely they were to express uncertainty about the topic when the majority is against their opinion on Facebook ( $M = 4.2, SD = 1.12$ ) and on Twitter ( $M = 3.1, SD = 1.20$ ).

Strategy 3: “Think of an issue in which you disagree with many of your Facebook friends. How likely you would agree with the majority opinion in this discussion on Facebook [although I have a different opinion]” ( $M = 2.1, SD = 1.13$ ); “Think of an issue in which you disagree with many of your Twitter friends. How likely you would agree with the majority opinion in this discussion on Twitter [although I have a different opinion]” ( $M = 2.0, SD = 1.24$ ).

Strategy 4: “Think of an issue in which you disagree with many of your Facebook friends. How likely you talk about the opinion someone you know (instead of saying this is my opinion) on Facebook?” ( $M = 1.9, SD = 1.12$ ); “Think of an issue in which you disagree with many of your Twitter followers. How likely you talk about the opinion someone you know (instead of saying this is my opinion) on Twitter?” ( $M = 1.9, SD = 1.23$ ).

**Frequency of Social Media Use.** “Frequency of social media use” was used as a control variable. To measure frequency of social media use, the respondents were asked “how often do you visit or use Facebook?” ( $M = 4.1, SD = 1.41$ ); and “how often do you visit or use Twitter?” ( $M = 3.9, SD = 1.50$ ) The response choices were 5 (*multiple times a day*), 4 (*once a day*), 3 (*a few times a week*), 2 (*once a week*), and 1 (*a few times a month or less*).

## Data Analysis

To answer RQ1, a regression analysis was conducted to understand the effect of issue importance on individuals' opinion expression behaviors. The dependent variable was *willingness to express opinion on a controversial issue* and the focal independent variable was *issue importance*. Also, demographics (gender, age, and education), communication apprehension and frequency of social media use were used as control variables. RQ2 asked that whether issue knowledge will have an influence on people's willingness to express opinion about a controversial issue on a) Twitter and a) Facebook even when majority does not support individual's opinion. To answer RQ2, hierarchical regression analysis was conducted. Again the dependent variable was *willingness to express opinion on a controversial issue*. The focal independent variable was issue knowledge and the control variables were demographics (gender, age, and education), communication apprehension, and frequency of social media use.

H1 predicted that participants will more likely to use avoidance strategies on Facebook than they do on Twitter when their opinions were not supported by the majority. To measure the differences between Facebook and Twitter in terms of avoidance strategies, four different avoidance strategies were used to understand whether the respondent use these strategies on Twitter or on Facebook when the majority does not support their opinion. The strategies used here were *expressing opinion in a balanced way*, *expressing uncertainty*, *pretending to be agree with majority* and *using someone else opinion*. Four *t* tests were conducted to test whether people's avoidance strategies differed on Twitter versus Facebook for each avoidance strategy.

H2 suggested that the respondents will be more likely to express their opinions about a controversial issue on Twitter than on Facebook when they disagreed with their network on a controversial issue. To measure respondent's willingness to express opinion on a controversial issue, a *t* test was conducted. The dependent variable was *willingness to express*

*opinion on a controversial issue* and the independent variable *the social media type (Facebook and Twitter)*.

Two social sanctions were measured in this study to understand whether these social sanctions may have an effect on the respondent's *willingness to express opinion* on both Facebook and Twitter. Examined social sanctions were "perceived fear of isolation" and "perceived fear of being personally attacked" H3 suggests that people's perceived fear of isolation will be higher on Facebook than on Twitter. The dependent variable was *perceived fear of isolation* and the independent variable was *the social media type (Facebook and Twitter)*.

H4 suggests that people's perceived fear of being personally attacked would be higher on Twitter than on Facebook. The dependent variable was *perceived personal attack* and the independent variable was *social media type (Facebook and Twitter)*. An independent sample *t* test was conducted to see how do these two perceived social sanctions (perceived fear of isolation and perceived fear of being personally attacked) differed between Facebook and Twitter.

Finally, H5 predicted that people's perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Facebook, and H6 predicted that people's perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Twitter. To test how respondent's perceived social sanctions affected their willingness to express opinion on a controversial issue on Twitter and Facebook, hierarchical regression analysis was conducted. The dependent variable was *willingness to express opinion on a controversial issue* and the focal independent variables were fear of isolation and fear of personal attack. Also, demographics (gender, age, and education), communication apprehension, and frequency of social media use were used as control variables.

## Chapter 4: Results

This study sought to understand the difference between Twitter and Facebook in terms of users' willingness to express opinion and how some factors influence people's opinion expression behaviors on these platforms. To understand whether there is any difference between Twitter and Facebook in terms of people's opinion expression behaviors, six hypothesis and two research questions were proposed.

RQ1 asked whether issue importance would influence individuals' willingness to express opinions about controversial issues on a) Twitter and b) Facebook even when the majority does not support an individual's opinion. Two hierarchical regression analyses were conducted, one for Twitter and one for Facebook. The results suggested that issue importance has a significant influence on individuals' willingness to express opinion about controversial issues on Twitter. In the first model, gender, frequency of Twitter use, and communication apprehension were entered, and the overall model was significant,  $R^2 = .42$ ,  $F = 12.34$ ,  $p < .001$  (Table 3) and explained 42% of the variance in willingness to express one's opinion on Twitter. Communication apprehension produced a moderately strong negative correlation ( $\beta = -.54$ ,  $p < .001$ ), while Twitter use ( $\beta = .34$ ,  $p < .001$ ) and gender ( $\beta = .25$ ,  $p = .04$ ) produced weaker positive associations with one's willingness to express opinion on Twitter. When issue importance was added in the second model, the overall model remained significant,  $R^2 = .44$ ,  $F = 12$ ,  $p < .001$ . In the second model, the negative effect of communication apprehension decreased a little bit but remained significant ( $\beta = -.52$ ,  $p < .001$ ), while frequency of Twitter use ( $\beta = .33$ ,  $p < .001$ ) remained a moderate positive predictor. Gender ( $\beta = .27$ ,  $p = .04$ ) and issue importance ( $\beta = .22$ ,  $p < .01$ ) also were positive, but weaker, predictors. Because gender was coded 1 = male, these results suggest that men were more likely to be willing to speak out. Overall, these results showed that the more important an issue was, the more people were willing to express their opinion

about it on Twitter. Also, the more they used Twitter, the more they were willing to express their opinion on Twitter. However, people with high communication apprehension were less willing to express their opinion on Twitter.

The second part of the first research question was to what extent does issue importance affect individuals' willingness to express opinions on Facebook when majority does not support their opinions? In the first model, gender, frequency of Facebook use, and communication apprehension were entered, and the overall model was significant,  $R^2 = .22$ ,  $F = 4.5$ ,  $p < .001$  (Table 4) and explained 22% of the variance in willingness to express one's opinion on Twitter. Communication apprehension produced a moderately strong negative correlation ( $\beta = -.41$ ,  $p < .001$ ). On the other hand, gender ( $\beta = .01$ ,  $p = .04$ ) produced a weak positive association with one's willingness to express opinion on Facebook. Age ( $\beta = -.07$ ,  $p = .65$ ), education ( $\beta = -.04$ ,  $p = .69$ ) and frequency of Facebook use ( $\beta = -.93$ ,  $p = .73$ ) were not related to one's willingness to express opinion on Facebook. When issue importance was added in the second model, the overall model remained significant,  $R^2 = .24$ ,  $F = 4.6$ ,  $p < .001$ . In the second model, the effect of communication apprehension decreased a little bit but remained a significant negative predictor ( $\beta = -.39$ ,  $p < .001$ ), while gender ( $\beta = .12$ ,  $p < .04$ ) and Issue importance ( $\beta = -.14$ ,  $p < .01$ ) were weak positive predictors. Because gender was coded 1 = male, these results suggested that men were more likely to be willing to speak out. On the other hand, age ( $\beta = .08$ ,  $p = .56$ ), education ( $\beta = -.03$ ,  $p = .61$ ) and frequency of Facebook use ( $\beta = .14$ ,  $p = .63$ ) remained non-significant. Finally, in the third model, the overall model remained significant  $R^2 = .26$ ,  $F = .49$ ,  $p < .01$ . The effect of communication apprehension ( $\beta = -.39$ ,  $p < .001$ ), gender ( $\beta = .15$ ,  $p = .02$ ) and issue importance ( $\beta = .15$ ,  $p = .04$ ) remained as significant predictors of willingness to express one's opinion on Facebook. Because gender was coded 1 = male, these results suggest that men were more likely to be willing to speak out. The effect of frequency of Facebook use ( $\beta = .36$ ,  $p < .001$ ), age ( $\beta = .36$ ,  $p < .001$ ) and education ( $\beta = .36$ ,  $p < .001$ ) remained insignificant. Overall, the results showed that the more important an issue was, the more

people were willing to express their opinion about it on Facebook. Also, according to the results males are more willing to express their opinion on Facebook than females. People with communication apprehension were less willing to express their opinion on Facebook.

RQ2 asked that whether issue knowledge would have a significant influence on people's willingness to express opinion about a controversial issue on a) Twitter and b) Facebook even when majority does not support the individual's opinion. The results suggested that issue knowledge has a significant influence on one's willingness to express opinion on Twitter. In the first model, gender, frequency of Twitter use, and communication apprehension were entered, and the overall model was significant,  $R^2 = .42$ ,  $F = 12.34$ ,  $p < .001$  (Table 3) and explained 42% of the variance in willingness to express one's opinion on Twitter. Communication apprehension produced a moderately moderate negative correlation ( $\beta = -.54$ ,  $p < .001$ ), while Twitter use ( $\beta = .34$ ,  $p < .001$ ) and gender ( $\beta = .25$ ,  $p = .03$ ) produced weaker positive associations with one's willingness to express opinion on Twitter. When issue importance was added in the second model, the overall model remained significant,  $R^2 = .44$ ,  $F = 12$ ,  $p < .001$ . In the second model, the effect of communication apprehension decreased a little bit but remained significant ( $\beta = -.52$ ,  $p < .001$ ), while frequency of Twitter use ( $\beta = .33$ ,  $p < .001$ ) remained a moderate positive predictor. Gender ( $\beta = .27$ ,  $p < .02$ ) and issue importance ( $\beta = .22$ ,  $p < .01$ ) also were positive, but weaker predictors. Because gender was coded 1 = male, these results suggest that men were more likely to be willing to speak out. When issue knowledge added to the third model, the overall model remained significant  $R^2 = .48$ ,  $F = 13.63$ ,  $p < .001$ . In this model, the effect of communication apprehension ( $\beta = -.61$ ,  $p < .001$ ) and the effect of frequency of Twitter ( $\beta = .36$ ,  $p < .001$ ) use increased and remained significant. Also, issue knowledge ( $\beta = .33$ ,  $p < .001$ ) was positive predictor of *willingness to express one's opinion on Twitter*. Finally, gender ( $\beta = .22$ ,  $p < .001$ ) remained a positive and significant predictor. Because gender was coded 1 = male, these results suggest that men were more likely to be willing to speak out.

Table 3: Hierarchical Regression Analyses predicting one's Willingness to Express Opinion on Twitter

Variables	Model 1		Model 2		Model 3	
	B	$\beta$	B	B	b	$\beta$
Gender <sup>a</sup>	.29*	.25	.28*	.27	.22*	.22
Age	-.01	-.05	.01	.01	.01	.06
Education	-.13	-.11	-.12	-.10	-.21	-.17
Frequency of Social Media Use	.32***	.34	.31***	.33	.34***	.36
Comm. Apprehension	-.49***	-.54	-.48***	-.52	-.55***	-.61
Importance			.24**	.22	.35***	.31
Knowledge					.47***	.33
<i>F</i> value	12.339		12.629		13.630	
<i>R</i> <sup>2</sup> change	.42***		.02***		.054***	
<i>R</i> <sup>2</sup>	.42		.44		.48	

a Male = 1, \* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

While issue knowledge has positive and significant effect on willingness to express opinion on Twitter, this was not the case on Facebook. The second part of the second research question was *to what extent does issue knowledge affect individuals' willingness to express opinions on Facebook when majority does not support their opinions?* Again a hierarchical regression analysis was conducted to understand the effect of issue knowledge on Facebook user's political expression behavior. The dependent variable was *one's willingness to express an opinion*. In the first model, gender, frequency of Facebook use, and communication

apprehension were entered, and the overall model was significant  $R^2 = .22$ ,  $F = 4.57$ ,  $p < .001$  (Table 4) and explained 22% of the variance in willingness to express one's opinion on Facebook. While communication apprehension variable produced moderate negative correlation ( $\beta = -.41$ ,  $p < .001$ ), gender produced a weak positive association ( $\beta = .01$ ,  $p = .04$ ) with one's willingness to express opinion on Facebook. When issue importance variable added in the second model, the  $R^2$  increased by .02, and overall the model remained significant,  $R^2 = .24$ ,  $F = 4.6$ ,  $p < .001$ . In the second model, the effect of communication apprehension decreased but remained significant ( $\beta = -.39$ ,  $p < .001$ ). Issue importance ( $\beta = -.14$ ,  $p < .01$ ) and gender ( $\beta = -.05$ ,  $p = .04$ ) was positively associated with *one's willingness to express opinion on Facebook*. Finally, when issue knowledge added in the third model, overall the model remained significant  $R^2 = .25$ ,  $F = 4.93$ ,  $p < .01$ . Communication apprehension variable decreased but stayed significant ( $\beta = -.38$ ,  $p < .001$ ). On the other hand, issue importance variable increased significantly and remained significant ( $\beta = -.27$ ,  $p < .01$ ). Gender also remained significant ( $\beta = -.10$ ,  $p = .03$ ). Because gender was coded 1 = male, these results suggest that men were more likely to be willing to speak out. The results showed that issue knowledge has no significant effect on people's willingness to express opinion on Facebook. Communication apprehension, on the other hand, was negatively related to people's willingness to express opinion on Facebook.

RQ2 asked to what extent does issue knowledge affects individuals' willingness to express opinions on Facebook when majority does not support their opinions? Results suggested that there were no significant effects. According to the third model, contrary to on Twitter, neither frequency of Facebook use ( $\beta = -.10$ ,  $p = .15$ ) nor issue knowledge ( $\beta = -.10$ ,  $p = .17$ ) was related to one's willingness to express opinion on Facebook. Overall, the result suggested that while issue importance was related to people's willingness to express opinion on Facebook, issue knowledge has no significant relationship with willingness to express opinion on Facebook.

Table 4: Hierarchical Regression Analyses predicting one's Willingness to Express Opinion on Facebook

Variables	Model 1		Model 2		Model 3	
	b	$\beta$	b	$\beta$	b	$\beta$
Gender <sup>a</sup>	.11 <sup>*</sup>	.01	.12 <sup>*</sup>	.05	.15 <sup>*</sup>	.10
Age	-.010	-.07	-.010	.08	-.01	.07
Education	-.05	-.04	.20	.14	-.03	-.03
Frequency of Social Media Use	.13	.93	.14	.10	.20	.14
Comm. Apprehension	-.37 <sup>***</sup>	-.41	-.35 <sup>***</sup>	-.39	-.35 <sup>***</sup>	-.39
Importance			.20 <sup>**</sup>	.14	.37 <sup>**</sup>	.27
Knowledge					-.12	-.10
<i>F</i> value		4.570		4.629		4.930
<i>R</i> <sup>2</sup> change		.224 <sup>***</sup>		.020 <sup>***</sup>		.012 <sup>**</sup>
<i>R</i> <sup>2</sup>		.224		.244		.256

a Male = 1, \* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

H1 predicted that participants would more likely to use some avoidance strategies on Facebook than they do on Twitter when the majority did not support their opinions. To measure the differences between Facebook and Twitter in terms of avoidance strategies, four different avoidance strategies were used to understand whether the respondent use these strategies on Twitter or on Facebook when the majority does not support their opinion.

The first avoidance strategy was *presenting their opinions in a balanced way*. According to the paired *t* test results a significant difference were found between Facebook and Twitter in terms of expressing opinion in a balanced way  $t(533) = 1.96, p = .03$  (See Table 5). Respondents were more likely to present their arguments in a balanced way on Facebook ( $M = 3.14, SD = 1.41$ ) than they do on Twitter ( $M = 2.87, SD = 1.52$ ).

The second avoidance strategy was *expressing uncertainty about the topic* when the majority does not support respondents' opinion. A significant difference was found between Facebook and Twitter in terms of this avoidance strategy,  $t(534) = 2.72, p < .001$ . The respondents were likely to *express uncertainty about the topic on Facebook* ( $M = 4.16, SD = 1.14$ ) than on Twitter ( $M = 3.05, SD = 1.20$ ) when a controversial topic came up and the majority disagreed with their opinion. For the third and fourth avoidance strategies, no significant differences between Facebook and Twitter were found. For the third avoidance strategy, *agreeing with the majority even if they have a different opinion*, people on Facebook ( $M = 2.05, SD = 1.12$ ) were equally likely to people on Twitter ( $M = 2.00, SD = 1.23$ ) when a controversial topic came up and the majority disagreed with their opinion,  $t(534) = .17, p = .11$ . Finally, the fourth and the last avoidance strategy was *talking about someone else's opinion (instead of saying this is their opinion)*. According to paired sample *t*-test no difference was found between Facebook ( $M = 1.90, SD = 1.13$ ) and Twitter ( $M = 1.87, SD = 1.16$ ) in terms of this last avoidance strategy  $t(543) = .23, p = .09$ . Overall paired sample *t*-test results showed that people are more likely to use some avoidance strategies when their network disagree with them on Facebook versus Twitter. The results also suggested that users are likely to express their opinion in a balanced way and express uncertainty on Facebook when their network disagree with them.

Table 5: Results of paired sample t-test for avoidance strategies

	Social Media				95% CI for Mean Difference	<i>t</i>	<i>df</i>
	Facebook		Twitter				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Balanced way	3.4	1.4	2.9	1.5	.16, .16	1.6*	532
Expressing uncertainty	4.2	1.1	3.1	1.2	.18, .22	1.7**	532
Pretending to agree with the majority	2.1	1.1	2.0	1.2	.18, .19	.17	532
Someone else's opinion	1.9	1.1	1.9	1.2	.05, .35	.27	532

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Hypothesis 2 suggests that the respondents will be more likely to express their opinions about a controversial issue on Twitter than on Facebook when they are disagreeing with their network on a controversial issue. This hypothesis was supported  $t(534) = -6.91$ ,  $p < .001$ . According to the paired sample  $t$  test result, respondents were more likely to express their opinions on Twitter ( $M = 3.65$ ,  $SD = 1.49$ ) when their network disagreed with them on a controversial topic than on Facebook ( $M = 2.35$ ,  $SD = 1.44$ ). Overall, the results suggested people tend to use more avoidance strategies on Facebook than on Twitter.

For H3 and H4, I considered the effect of two types of social sanctions, perceived fear of isolation, and perceived fear of personal attacks, on people's willingness to speak out. H3 suggested that people's perceived fear of isolation would be higher on Facebook than on Twitter. A paired sample  $t$ -test was conducted to see how do social sanctions play a role on political expression on these two social media websites. As shown in Table 6, H3 was supported  $t(524) = 13.54$ ,  $p < .001$ . The results suggested that perceived fear of isolation was higher on Facebook than on Twitter. The respondents were more likely to have a fear of

isolation on Facebook ( $M = 3.85$ ,  $SD = 1.16$ ) than they do have on Twitter ( $M = 2.90$ ,  $SD = 1.15$ ).

Table 6: Results of paired sample t-test for perceived fear of isolation

	Social Media						95% CI for Mean Difference	<i>t</i>	<i>df</i>
	Facebook			Twitter					
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
Fear of isolation	3.35	1.16	525	2.90	1.15	525	.81, 1.08	13.54*	524

On the other hand, as shown in Table 7, hypothesis 4 was not supported. H4 suggested that people's perceived fear of personal attack would be higher on Twitter than on Facebook. According to the paired sample *t* test results there was no significant difference between Facebook ( $M = 3.37$ ,  $SD = 1.23$ ) and Twitter ( $M = 3.31$ ,  $SD = 1.34$ ) in terms of the respondents *perceived fear of personal attack*  $t(527)=1.69$ ,  $p = .72$ .

Table 7: Results of paired sample t-test and Descriptive Statistics for perceived personal attack

	Social Media						95% CI for Mean Difference	<i>t</i>	<i>df</i>
	Facebook			Twitter					
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
Fear of personal attack	3.37	1.23	528	3.31	1.34	528	-.012, .15	1.69	527

Finally, H5 predicted that people's perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Facebook. To measure how respondent's perceived social sanctions affected their willingness to express opinion on a controversial issue, hierarchical regression analysis was conducted. The dependent variable was *one's willingness to express their opinion on a controversial issue*. This hypothesis was supported. In the first model, gender, age, education, frequency of Facebook use and communication apprehension were entered, the overall model was significant  $R^2 = .234$ ,  $F = 4.041$ ,  $p < .001$  (Table 8), and explained 23% of the variance in *willingness to express opinion one's opinion on Facebook*. Communication apprehension produced a moderate negative correlation ( $\beta = -.44$ ,  $p < .001$ ), while gender ( $\beta = -.01$ ,  $p = .09$ ), age ( $\beta = -.09$ ,  $p = .10$ ), education ( $\beta = -.06$ ,  $p = .21$ ) and frequency of Facebook use ( $\beta = .07$ ,  $p = .55$ ) were not significantly related to *willingness to express opinion one's opinion on Facebook*. When fear of isolation added in the second model, the overall model remained significant  $R^2 = .33$ ,  $F = 8.91$ ,  $p < .001$  and explained the total of 33% variance in *willingness to express one's opinion on Facebook*. In the second model, the effect of communication apprehension decreased but remained significant ( $\beta = -.35$ ,  $p < .001$ ). Also, fear of isolation produced moderate significant negative correlation ( $\beta = -.32$ ,  $p < .01$ ). On the other hand, gender ( $\beta = -.04$ ,  $p = .12$ ), age ( $\beta = -.11$ ,  $p = .07$ ), education ( $\beta = -.11$ ,  $p = .15$ ) and frequency of Facebook use ( $\beta = .06$ ,  $p = .09$ ) were not related to *willingness to express opinion one's opinion on Facebook*. When fear of personal attack entered in the third model, the effect of communication apprehension ( $\beta = -.61$ ,  $p < .001$ ) increased and remained significant. Finally, fear of personal attack variable entered in the third model and the overall model remained significant  $R^2 = .35$ ,  $F = 8.98$ ,  $p < .001$ . The third model explained 35% total variance in *willingness to express one's opinion on Facebook*. The fear of personal attack ( $\beta = -.27$ ,  $p < .01$ ) produced significant and negative correlations with *willingness to express one's opinion on Facebook*. The effect of communication apprehension ( $\beta = -.61$ ,  $p < .001$ ) and fear of isolation ( $\beta = -.53$ ,  $p < .001$ ) increased and remain significant. Both of them produced strong negative correlation with *willingness to express one's opinion on Facebook*. On the other hand gender

( $\beta = -.02$ ,  $p = .14$ ), age ( $\beta = -.12$ ,  $p = .19$ ), education ( $\beta = -.05$ ,  $p = .11$ ) and frequency of Facebook use ( $\beta = .15$ ,  $p = .12$ ) were not significantly related to *willingness to express opinion one's opinion* on Facebook. These results suggested that people who have low fear of isolation, low communication apprehension and low fear of personal attack are more likely to express their opinion on Facebook. The strongest predictor among these variables was fear of isolation.

Table 8: Predicting the effect of social sanctions on Facebook

Variables	Model 1		Model 2		Model 3	
	B	$\beta$	b	$\beta$	b	$\beta$
Gender <sup>a</sup>	.04	.01	.11	.04	.07	.02
Age	-.01	-.09	-.01	-.11	-.01	-.12
Education	-.07	-.06	-.13	-.11	-.07	-.05
Frequency of Social Media Use	.10	.07	.08	.06	.21	.15
Comm. Apprehension	-	-.44	-	-.35	-.55**	-.61
Fear of isolation	.39***		.32***			
			-.39**	-.32	-	-.53
					.59***	
Fear of Personal Attack					-.28**	-.27
<i>F</i> value	4.041		8.906		8.979	
<i>R</i> <sup>2</sup> change	.23***		.09***		.02***	
<i>R</i> <sup>2</sup>	.23		.33		.35	

a Male=1, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

H6 predicted that people's perceived social sanctions will negatively affect their willingness to express opinion on a controversial issue on Twitter. This hypothesis was not supported. To measure how respondent's perceived social sanctions affected their willingness to express opinion on a controversial issue, hierarchical regression analysis was conducted. In the first model, gender, age, education, frequency of Facebook use and

communication apprehension were entered, the overall model was significant  $R^2 = .42$ ,  $F = 9.77$ ,  $p < .001$  (Table 9), and explained 42% of the variance in *willingness to express opinion one's opinion on Twitter*. Communication apprehension produced moderate negative correlation ( $\beta = -.51$ ,  $p < .001$ ), while gender ( $\beta = .04$ ,  $p = .08$ ), age ( $\beta = -.02$ ,  $p = .11$ ), education ( $\beta = -.10$ ,  $p = .07$ ) were not significantly related to *willingness to express opinion one's opinion on Twitter*. Frequency of Twitter use ( $\beta = .33$ ,  $p < .001$ ) also produced a moderately strong positive correlation with willingness to express one's opinion. When fear of isolation was added in the second model, the overall model remained significant  $R^2 = .43$ ,  $F = 8.46$ ,  $p < .001$  and explained the total of 43% variance in *willingness to express one's opinion on Twitter*. In the second model, the effect of communication apprehension ( $\beta = -.52$ ,  $p < .001$ ) decreased but remained significant. Fear of isolation ( $\beta = -.13$ ,  $p = .12$ ) was not related to willingness to express one's opinion on Twitter. Also, gender ( $\beta = .03$ ,  $p = .17$ ), age ( $\beta = -.12$ ,  $p = .19$ ), education ( $\beta = -.12$ ,  $p = .11$ ) were not related to *willingness to express opinion one's opinion on Twitter*. Finally, fear of personal attack variable entered in the third model and the overall model remained significant  $R^2 = .35$ ,  $F = 8.9$ ,  $p < .001$ . The third model explained 43% total variance in *willingness to express one's opinion on Twitter*. The Fear of personal attack ( $\beta = -.28$ ,  $p = .09$ ) was not related to *willingness to express one's opinion on Twitter*. The effect of communication apprehension ( $\beta = -.50$ ,  $p < .001$ ) increased and remain significant. Frequency of Twitter use ( $\beta = .35$ ,  $p < .001$ ) produced a positive correlation with *willingness to express one's opinion on Twitter*. On the other hand gender ( $\beta = -.03$ ,  $p = .76$ ), age ( $\beta = -.02$ ,  $p = .66$ ), education ( $\beta = -.12$ ,  $p = .89$ ), frequency of Twitter use ( $\beta = .35$ ,  $p < .001$ ) and the Fear of personal attack ( $\beta = -.03$ ,  $p = .58$ ) were not significantly related to *willingness to express opinion one's opinion on Twitter*. Overall, the results suggested that people who use Twitter often was more likely to express their opinions on Twitter. On the other hand, communication apprehension was negatively related to people's willingness to express their opinion on Twitter. The results also suggested that two social sanctions, fear of isolation and fear of personal attack, have no significant relationships with people's willingness to express opinion on Twitter.

Table 9: Predicting the effect of Social Sanctions and Twitter

Variables	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	b	B	b	$\beta$	b	$\beta$
Gender <sup>a</sup>	.12	.04	.08	.03	.08	.03
Age	-.00	-.02	-.01	-.01	-.00	-.02
Education	-.12	-.10	-.14	-.12	-.14	-.12
Frequency of Social Media Use	.32***	.33	.33***	.35	.33***	.35
Comm. Apprehension	-.49***	-.51	-.46***	-.52	-.46***	-.50
Fear of isolation			-.14	-.13	.12	-.10
Fear of Personal Attack					-.03	-.03
<i>F value</i>	9.775		8.463		7.151	
<i>R2 change</i>	.42***		.01		.000	
<i>R2</i>	.42		.43		.43	

Male=1, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## Chapter 5: Discussion

This dissertation aimed to understand people's political expression behavior on social media websites by analyzing several factors related to the spiral of silence, the SIDE and affordances theory. This dissertation sought to understand whether people were more willing to express their opinions on Twitter than on Facebook. Overall, this dissertation aimed to contribute a deeper understanding of political discussion on social media websites. It was assumed that fear of isolation, de-individuation and affordances may influence users' opinion expression behaviors on social media websites. The logic behind this dissertation was that individual's opinion expression behavior not just depends on the climate of opinion (Noelle-Neumann, 1993) but some additional factors, such as the affordances and the sense of de-individuation people feel on each platform. Because these affordances may lead people to vary in how de-individuated they feel on Twitter versus Facebook, I argued that they may differ in how likely they are to express controversial opinions that they do not think the majority of their network supports.

First, I will discuss my findings in lights of affordances then SOS and then SIDE theories and discuss theoretical and practical implications of the results. Then I will discuss limitations of this study and suggest areas for future research that my findings suggest before concluding with the main contribution this dissertation makes to mass communication literature.

## **Affordances**

I argued in this dissertation that because Twitter and Facebook do not have the same affordances that people may express minority viewpoints on these platforms in differing ways. The affordances I considered were friend networks on each platform, visibility, and identifiability. I speculated that on Twitter people may feel more free to express minority viewpoints because Twitter networks tend to be made up of strangers or weak-tie acquaintance (Chen, 2011; Himelboim et al., 2013); therefore, people would not fear losing these relationships if they expressed a divergent opinion to the same extent as they would on Facebook, where people engage with real-life friends or stronger ties, such as family members (Chen, 2015; Christofides et al., 2009). Similarly, I argued the posts on Facebook are more visible because the platform automatically notified people's friend networks about a post, while Twitter's notification system is less prominent. As a result, people would be more afraid to express a differing viewpoint on Facebook where real friends might see than on Twitter in the midst of strangers and weak-tie acquaintances. Even though the selected affordances were not measured in this study, I speculated that Facebook requires more visibility of people's identity by requiring a real name and encouraging inclusion of multiple details about a person in their profile, while Twitter allows fake names and does not provide room for many details about a person. This lessened identifiability on Twitter, I argued, would make people more free to express minority viewpoints because they would not worry about offending real friends because they can distance their Twitter profile from their real self.

My findings support this contention. I found that people were more willing to express controversial opinions that they believed were in the minority on Twitter than on Facebook. I also found users also tend to use opinion expression avoidance strategies more often on Facebook versus Twitter when the majority of their network does not agree with them.

This offers important new knowledge about how affordances operate on various social media platforms. These findings suggest that even if people are not consciously thinking about the differences in affordances, these affordances influence how they express opinions on these platforms. Norman (1990) argued that, “affordances provide strong clues to the operation of things” (p. 9). Similarly, Gibson (1982) stated that affordances might constrain or encourage certain actions. My findings strongly support this contention. My findings showed that when the same people are asked whether they would express a controversial minority viewpoint on Twitter and on Facebook, they reported being more constrained on Facebook. This suggested that it is the affordances of these two platforms that may lead to differences, not the fact that different people may be drawn to use Twitter than to use Facebook. Thus, this suggested that the differences in people’s opinion discussion behaviors is not just a function of what platform they choose to use. Rather, this study provided early evidence that it is the affordances of each platform that may lead people to change their behaviors when they interact on one versus the other. This begins to answer a question left unresolved by earlier research (Oz et al, 2017), which also found that people differed in how they communicated on Twitter versus Facebook. However, that study did not clarify whether different people are drawn to Twitter than to Facebook and that is why opinion discussion behaviors may differ or because the same people would express opinions differently

Furthermore, my findings demonstrated that it is possible that people may be concerned more with agreement on a controversial issue with certain people rather than rest of their network on social media websites (Fox & Holt, 2018). For example, the majority of people’s networks may agree with them on a controversial topic but if their key strong ties disagree with them then they may not want to express their opinion on that network since their visibility and identifiability high and they may not want to upset their key ties (Jeffries et al., 1999; Lowery, Hardin, & Sinclair, 2001). In other words, the affordances of friend network, visibility, and identifiability work together to create a climate on Twitter where

people may be freer to express controversial minority opinions because they feel less visible and identifiable, and they are less worried about offending their weak-tie relationships or strangers, so they feel emboldened. Given that picture above, a main theoretical contribution of this work is to suggest that a favorable opinion climate alone is not enough to explain people's willingness to express opinions on a controversial issue on social media platforms. Depending on the affordances each platform, people may not want to express their opinions if they feel more identifiable, more visible, or if they are interacting mainly with strong-ties friends and relatives.

The concept of homophily is helpful in understanding my findings. Some studies suggest that people tend to talk about controversial issues with their homogenous networks or close ties (Marsden, 1987) and users are likely to have homogenous network on Facebook (Lönnqvist & Itkonen, 2015). On the other hand, the results of this dissertation suggested that people tend to avoid discussing controversial issues on homophilic Facebook, and they are more likely to discuss these issues on more heterogenous Twitter. Another explanation of these results could be that high visibility and identifiability might increase people's awareness of opinion diversity within users' networks on Facebook (Hampton, Lee, & Her, 2011). Thus, even though users are most likely to have homophilic networks on Facebook, increased awareness of diverse opinions might lower their perceived homophily and increase ambivalence toward a controversial discussion on Facebook (Hampton, Lee, & Her, 2011). Thus, this increased awareness may explain why users censor themselves and prefer not talk about controversial issues on Facebook.

This study also supported the idea that visibility and identifiability may influence users' opinion expression behaviors on social media websites. The result showed that people tend to express their opinion on Twitter where visibility and identifiability are low versus Facebook where these two affordances are high. Gaver (1996) speculated that affordances may influence social interaction between people. The results suggested that while users on Twitter tend to express their opinions on a controversial issue, they tend to use avoidance

strategies on Facebook and avoid from interacting with their network on a controversial issue. Thus, it can be concluded that social media affordances do not only influence individual actions but also they may have an impact on social interactions on social media websites. The results also suggested that users may feel less accountable for their actions when their visibility and identifiability are low. People feel less accountable for their actions anonymous environments, and, as a result, they tend to discuss controversial issues in these kinds of environments (McDevitt, Kiouisis, & Wahl-Jorgensen, 2003). Even though Twitter is not fully an anonymous space, users may perceive less visibility and identifiability on Twitter and, thus, feel more anonymous. As a result, users may participate in discussions – and eschew opinion expression avoidance strategies -- more on Twitter than on Facebook where visibility and identifiability greater.

A recent study suggested that high visibility and identifiability on online environments can increase information flow among different audiences (Halpern & Gibbs, 2013). As a result, users may see more diverse opinions and this intensify political discussions on these platforms. However, contrary to this finding, the results of this dissertation suggests high visibility and identifiability may impeded people from discussing controversial issues when they feel their opinion is not supported by the majority. It is possible that high visibility and identifiability on Facebook add greater accountability in people's actions. Thus, these affordances may prevent users from directly expressing their opinions instead leading them to use avoidance strategies.

### **Spiral of Silence**

The starting point of this dissertation was that the spiral of silence process may operate differently on Facebook versus Twitter depending on the affordances of these social media websites. Overall, the results revealed several important findings. First, the results are consistent with the theoretical claim of the SOS: high fear of isolation and fear of social sanction lead to self-censorship. The results showed that when users think that their opinions

are not supported by the majority on Facebook, they tend to self-censor themselves or use avoidance strategies on Facebook. It is possible that users perceive greater risk of social sanctions and isolation on Facebook than Twitter. Especially in homophilous environments like Facebook, people rely on social trust and they seek social approval (Cialdini, & Goldstein, 2004). Thus it is logical to see that users self-censor their opinions on such environments when disagreements arise. As a result, the findings of this dissertation contradict the idea that social media websites provide new spaces for open discussion. In some social media websites like Facebook, users' online networks are more closely tied to their offline networks. Thus, it could be argued that the SOS process that operates in offline environments is also applicable to context of Facebook. It could also be argued that users tend to consider their key ties before they express their opinions on a controversial issue if their visibility and identifiability are high in that platform.

However, my findings also offer new knowledge about how SOS operates in online spaces. The main assumption of the spiral of silence theory was the degree of one's willingness to express opinion depends on the view of majority. However, the results of this dissertation challenge this premise of the theory. The result revealed that even though the respondents were asked to imagine themselves in a minority situation in both platforms (Facebook and Twitter), they were less willing to express their opinion on Facebook versus Twitter. Thus, my findings demonstrated that people do not only consider the opinion climate – whether most people agree or disagree with them on a controversial issues when deciding whether to speak out online. They also consider the social media platform. It could be concluded that sometimes users might not want to upset their key ties even though the majority of their network support their opinion (Fox & Holt, 2018). Again social trust and seeking approval from the key ties could also be the reason of why users do self-censor themselves on Facebook more than they do on Twitter.

Furthermore the results suggested that two social sanctions (fear of isolation and personal attacks) have a significant impact on users' willingness to express opinion on

Facebook, but there was no significant relationship between these social sanctions and one's willingness to express opinion on Twitter. Some researchers suggested that Facebook provides more social connectedness than Twitter. For example, Facebook provides some features (such as "find my friend") that users can find their friends and it is possible that this specific feature may increase social connectedness (Davenport, Bergman, Bergman, & Ferrington, 2014). From this point of view it may be concluded that individuals' fear of social isolation may involve fear of losing real-world relationships (Metzger, 2009) and, therefore, respondents' perceived fear of social isolation may be higher on Facebook than Twitter. Moreover, it could be argued that three affordances (Friend network, visibility and identifiability) are tied to expected social sanctions on social media websites. Thus, people have less fear of social sanctions, such as losing a relationship, on Twitter because of its low identifiability, visibility, and weak-tie-based relationships. The spiral of silence theory suggests that the climate of opinion is a significant predictor of one's willingness to express opinion on an issue. However, the results of this dissertation suggested that the importance of the opinion climate depends on the perceived affordances. Thus, if people think that their visibility and identifiability is low on these platforms then they may speak up against the majority. Therefore, my findings support the idea that the key concept of spiral of silence – opinion climate -- is also related to perceived affordances. It is possible that users think that low visibility and identifiability lower their risk of social isolation and social sanctions. Having high visibility-identifiability and having close ties on Facebook may cause a concern about a greater blowback from their network on Facebook if the opinion climate shifts. The results indicated that it is more difficult for users to ignore social consequences of their actions on a platform where visibility and identifiability high (Neubaum & Kramer, 2018). This findings support the idea that "fear of isolation is less likely to be felt among strangers and more likely among direct and frequent contacts" (Neuwirth, 1990, p.185). This result also indicated that because of their affordances some social media websites have a potential to increase users' fear of isolation from a certain group or ties (Fox & Holt, 2018).

The results also suggested that users tend to use more avoidance strategies on Facebook versus Twitter. This finding suggests that the key concept of the spiral of silence theory, fear of isolation, may have an impact beyond explaining one's willingness to speak out on certain topics, but fear of social isolation can also explain the avoidance or participation strategies individuals' use when the majority does not support their opinions (Neubaum & Kramer, 2017).

The main assumption of this dissertation was that the spiral of silence process might operate differently on Facebook versus Twitter. In a minority situation, users were willing to express their opinion on Twitter but this was not the case on Facebook. This result confirms our assumption that users perceive different level of fear of isolation and risk of social sanctions on Facebook versus Twitter. Thus, when it comes to expressing opinion on a controversial issues, users do not only rely on the opinion climate but perceived affordances had a significant influence on one's willingness to express opinion on social media websites. These findings support the idea that the spiral of silence process can be better understood by examining effects of perceived affordances of these platforms.

### **The SIDE**

In this dissertation, I theorized that the main concept of the SIDE, de-individuation, may vary on Twitter versus Facebook because users are likely to have different networks on Twitter versus Facebook (Chen, 2011; Himelboim et al., 2013; Bonds-Raacke and Raacke, 2010; Chen, 2015; Christofides et al., 2009) and these two social media websites have different affordances and features. Even though I did not directly tested de-individuation effect, I speculated that people would feel more de-individuated on Twitter amid their networks of weak-tie acquaintances and strangers, and less de-individuated on Facebook among strong-tie friends and relatives. Overall, the results of this dissertation confirmed that de-individuation effect might vary Twitter versus Facebook and de-individuation might encourage users to participate in discussion even their network disagree with them. Diener

(1980) argued that anonymity might cause individuals to lose their identity temporarily and make them feel de-individuated. The results of this dissertation indicated that not only anonymity but also reduced visibility and identifiability might cause de-individuation. In addition, this dissertation suggested that users' networks also might cause de-individuation. If users have networks with weak ties, as on Twitter, then it is possible that users might feel de-individuated since their network has less connection to their real identity. On the other hand, if their online social network is connected to their offline network, as on Facebook, then users feel that their actions are connected to their real identity. According to the results, people tended to express their opinion more on Twitter versus Facebook and they have less fear of isolation and social sanctions on Twitter than Facebook. Overall the results suggested that while users tend to ignore social consequences of their actions on Twitter, they feel accountable of their actions and self-censor themselves on Facebook. The literature suggested that Facebook mainly is used for maintaining offline relationships (Ellison, Steinfield, & Lampe, 2007) and users tend to reveal a lot of information about themselves on Facebook. Thus it can be argued that Facebook provide higher visibility and identifiability than Twitter. Thus, it is possible that because of the lack of visibility and identifiability on Twitter users may feel de-individuated and de-individuation reduce their fear from social sanctions (Neubaum & Kramer, 2016). On the other hand visibility and identifiability may increase users' concerns about the outcomes of their participations on Facebook, such as fear of social isolation or social sanctions like losing a friend.

The results also suggested that people are less likely to express their opinion on a controversial issue if they use Facebook frequently. This also support the argument that people may feel less de-individuated on Facebook because they think that their actions are connected to their real identity. People tend to reveal significant amount of personal information on Facebook. So it is possible that they think this personal information are associated their comments and posts on Facebook. If they use Facebook frequently, they may be more aware of how the platform works and more vulnerable to feeling their real identity

is exposed if they share controversial viewpoints that they believe their online network would disagree with. On the other hand, I found a significant relationship between frequency of Twitter use and users' willingness to express opinions on Twitter. This suggested that frequent Twitter users also may be more aware of how Twitter operates, so they feel more comfortable speaking out on the platform without fear that their comments will be tied to their real identity. Thus, this result confirmed that not only anonymity but also reduced visibility and identifiability might cause de-individuation effect (Halpern & Gibbs, 2012). The result suggested that the degree to which users feel identifiable and visible on social media platforms influence the SIDE process. Even though users can use their real names and use their profile pictures on these platforms, they do not have to do this on Twitter. Thus, they may feel that their real identity is more separated from their social media identity, producing a greater sense of de-individuation on Twitter that influence their opinion expression behaviors (Suler, 2004). Based on the results of this dissertation, it can be also argued that de-individuation is associated a greater willingness to express opinion on social media platforms. From this point of view, it can be also concluded that people may perceive the social media websites that allow greater visibility and identifiability are less suitable for discussing controversial issues than other social media platforms.

Overall, the results of this dissertation confirmed that if users feel identifiable and visible within a network of strong ties on Facebook, then they might expect to fear social isolation or social sanctions, such as losing a relationship, to a greater extent than on Twitter, where they interact with weak-tie acquaintances and strangers and may feel less identifiable and visible. As a results, people are more likely to express controversial minority viewpoints on Twitter than on Facebook and less likely to adopt communication avoidance strategies. In summary, my findings demonstrated that affordances of a particular social platform influence how the spiral of silence operates and suggest that people adopt different opinion expression behaviors based on these affordances, not merely based on their assessment of the opinion climate. In addition, my results showed that the affordances of social media

platforms may influence people's sense of de-individuation on these platforms, and, as a result influence whether they are willing to speak out about a controversial issue when they feel they hold a minority view.

### **Limitations and Directions for Future Research**

There are several limitations of this dissertation. First, respondents were asked some hypothetical questions. Such as "would you be willing to express your opinion on a controversial issue on Facebook if the majority does not support your opinion." Even though their answers provided some insights about what would they do in such situation, this was not their actual response to a real minority situation. Thus, future studies can conduct experiments to understand individuals' opinion expression behavior on social media websites in real life situations.

Also, only two social media websites (Facebook and Twitter) were compared in terms of users' willingness to express opinion. It is possible that examining more social media platforms may provide better understanding about how people operate in these social media platforms. For example, future studies can look at how people operate on Reddit. Reddit is a news focused and more discussion oriented social media website. So future studies can examine Reddit and compare with Twitter and Facebook. Another social media website is YouTube. YouTube is a user generated online video platform. Both Reddit and YouTube provide more anonymous environment than Twitter and Facebook. Thus, it can be interesting to see how users operate on these more anonymous social media websites.

Moreover, in this dissertation, the respondents were not asked about how they perceived affordances on these social media websites. Future studies may directly assess the affordances to see how these affordances impact users opinion expression behaviors. Also, it is possible that different perceived affordances may have different impact on people's opinion expression behavior. Thus, future studies can compare different perceived affordances in different contexts. Furthermore, I did not directly measure de-individuation

effect in this dissertation. So future studies can directly ask people whether they feel de-individuated on different social media environments. It is possible that de-individuation effect may vary from person to person. For example, people's characteristic traits may also influence whether they feel de-individuated or not.

Of course there are some fully anonymous and bots accounts on Twitter. For example, according to a study almost 15% of all Twitter accounts are either bots or anonymous accounts (Varol, Ferrera and Davis, 2017). When examining political discussions on Twitter, it is important to see how bots accounts and fully anonymous accounts influence users opinion expression behaviors. So future studies can examine how these accounts influence political discussions on Twitter.

Future studies also can look at some other variables that may predict one's willingness to express opinion on social media websites such as personal experience. For example, if a social media user received a negative feedback from his network in the past, it is possible that he may be less willing to express his opinion on a controversial issue on that platform.

In this dissertation I did not specify a certain controversial issue. It is possible that affordances may become more important when it comes to some certain issues. Thus, future studies can specify certain issues and see whether affordances become more important on a certain issue versus others.

According to many scholars survey method is a sufficient way to examine SOS process (Scheufele & Moy, 2000). However, by only using survey methods, this limited the researcher's ability to make a cause-effect relationship claim. Thus, future studies may combine survey method with an experiment to understand the SOS process better in social media environments.

## **Conclusion**

The results suggested that there were significant differences between Twitter and Facebook in terms of one's willingness to express opinion. In summary people were more likely to express their opinion on Twitter than Facebook when they think the majority does not support their opinion. Also the results showed that users have more fear of social sanctions on Facebook than Twitter, the fear of the possibility of social sanctions more on Facebook than they do on Twitter, and the fear of social sanctions decrease the willingness to express opinions on Facebook. Overall, this dissertation found consistent evidence that people operate on social media websites differently and the findings of this dissertation fit within the framework of Affordances, the SOS and the SIDE theories.

Overall the results suggested several important findings. First of all, the results indicated that people operate differently on Twitter versus Facebook in terms of the SOS process. Also, since social media websites have different affordances, researchers should be careful when they generalize the results of one social media websites to other platforms. According to the results social media websites have different affordances, these affordances may influence people's opinion expression behaviors in a different way. Moreover, the network differences may increase people's perceived social sanctions. So even though some social media websites share some characteristics, people still can operate on these platforms differently because of different affordances and different network characteristics.

One of the most important contributions of this dissertation was that three affordances, friend's network, visibility and identifiability, influence the SOS process; therefore, SOS operates differently on Twitter versus Facebook. The findings also indicated that the spiral of silence process could be better understood by examining de-individuation impact and affordances on social media platforms. (Fox & Holt, 2018). Also, the results suggested that besides climate of opinion, affordances of the platform also influence the spiral of silence process on social media. Overall, the results provided a better understanding

of SOS and the SIDE process in the lights of affordances theory. Examining SOS, SIDE and affordances together helped to understand why users operate differently across platforms in terms of opinion expression.

## Appendix

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Q1 Do you use both Facebook and Twitter?

Yes (1)

No (2)

*Skip To: End of Survey If Do you use both Facebook and Twitter? = No*

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Q2 How often do you use Facebook?

Several times or more a day (1)

About once a day (2)

3-5 days a week (3)

1-2 days a week (4)

Every few weeks (5)

Less often (6)

---

Q3 How often do you use Twitter?

- Several times or more a day (1)
  - About once a day (2)
  - 3-5 days a week (3)
  - 1-2 days a week (4)
  - Every few weeks (5)
  - Less often (6)
-

Q4 Think of an issue in which you disagree with many of your Facebook friends. How likely are you to participate in a discussion on this issue on Facebook?

	Extremely likely (1)	Somewhat likely (2)	Neither likely nor unlikely (3)	Somewhat unlikely (4)	Extremely unlikely (5)
I would participate in this discussion (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate in this discussion and present arguments in a balanced way (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would express uncertainty about the topic (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would agree with the majority opinion in this discussion [although I have a different opinion] (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Still thinking about the same issue in which you disagree with many of your Facebook friends. if you express your opinion on that issue on Facebook, what sanctions you would expect from your Facebook friends?

	Extremely likely (1)	Somewhat likely (2)	Neither likely nor unlikely (3)	Somewhat unlikely (4)	Extremely unlikely (5)
I would fear losing potentially important relationships (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being excluded by others (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being avoided (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being insulted (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being verbally attacked (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Think of an issue in which you disagree with many of your Twitter followers. How likely are you to participate in a discussion on this issue on Twitter?

	Extremely likely (1)	Somewhat likely (2)	Neither likely nor unlikely (3)	Somewhat unlikely (4)	Extremely unlikely (5)
I would participate in this discussion and express my personal opinion (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would participate in this discussion and present arguments for and against in a balanced way (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would express uncertainty about the topic (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would agree with the majority opinion in this discussion [although I have a different opinion] (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Still thinking about the same issue in which you disagree with your Twitter followers. if you express your opinion on that issue on Twitter, what sanctions you would expect from your Twitter followers?

	Extremely likely (1)	Somewhat likely (2)	Neither likely nor unlikely (3)	Somewhat unlikely (4)	Extremely unlikely (5)
I would fear losing potentially important relationships (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being excluded by others (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being avoided (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being insulted (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would fear being verbally attacked (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Still thinking about the same issue in which you disagree with most Facebook friends?

How is this issue IMPORTANT to you?

- Extremely important (1)
  - Very important (2)
  - Moderately important (3)
  - Slightly important (4)
  - Not at all important (5)
- 

Q9 Still thinking about the same issue in which you disagree with most Facebook friends?

Overall, how KNOWLEDGEABLE would you say you are about the issue?

- Extremely knowledgeable (1)
  - Very knowledgeable (2)
  - Moderately knowledgeable (3)
  - Slightly knowledgeable (4)
  - Not knowledgeable at all (5)
-

---

Q10 Still thinking about the same issue in which you disagree with most Twitter followers?

How is this issue IMPORTANT to you?

- Extremely important (1)
  - Very important (2)
  - Moderately important (3)
  - Slightly important (4)
  - Not at all important (5)
-

Q11 Still thinking about the same issue in which you disagree with most Twitter followers?

Overall, how KNOWLEDGEABLE would you say you are about the issue?

- Extremely knowledgeable (1)
  - Very knowledgeable (2)
  - Moderately knowledgeable (3)
  - Slightly knowledgeable (4)
  - Not knowledgeable at all (5)
-

Q12 Please rate the following statements.

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Engaging in a group discussion with new people makes me tense and nervous (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm afraid to express my opinion (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am tense and nervous while participating in group discussions (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I dislike participating in-group discussions (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 What is your age now?

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Q14 Please specify your ethnicity.

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6)

---

Q15 What is the highest degree or level of school you have completed? *If currently enrolled, highest degree received.*

- Less than high school (1)
  - High school graduate (2)
  - Some college (3)
  - 2 year degree (4)
  - 4 year degree (5)
  - Professional degree (6)
  - Doctorate (7)
- 

Q16 What is your gender?

- Male (1)
  - Female (2)
-

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