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## The Impact of Breakups on Social Media Use Among Digital Natives

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The Impact of Breakups on Social Media Use  
Among Digital Natives

Hyejin Kim

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Master of Arts

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## ABSTRACT

### The Impact of Breakups on Social Media Use Among Digital Natives

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Digital natives, who are born and raised with digital technologies, have a deep affinity with social media. Social media has a great influence over an individual's daily life, even on his/her intimate and romantic relationship. As a breakup of romantic relationships can commonly happen to digital natives, and as it is likely to cause distress and psychological symptoms afterwards, this study attempted to find out the impact of breakups on social media use among digital natives. The quantitative survey was conducted with 175 valid participants between the ages of 18-30. These participants were those who currently live in the United States, who use social media at least once a month, who experienced a romantic breakup in the last six months. The results show that negative self-esteem plays a key role between breakup-associated factors and a strong attachment to social media use in their daily lives. Negative self-esteem mediates social media use with a breakup initiation status or depression prompted by breakup. Negative self-esteem also arises when a person's perceived responsibility towards the breakup or the cause of the breakup is high when they are rejected by their partner.

Keywords: digital natives, breakups, social media, self-esteem, depression

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## Introduction

Social media has become an indispensable communication tool in our daily lives due to the development of Internet technology and the invention of smartphones. Of the 3.71 billion internet users in the world, 2.3 billion people are considered as active social media users (Kemp, 2016). Compared to the early social media era which only focused on the social interactions between *Friends*, today's social media is actively connected to various aspects of human life. People are exposed to news contents, buy and sell items, promote their brands and products, and entertain themselves by using social media (e.g., Bialik & Matsa, 2017; Chadha, 2017). As social media has maintained a close relationship to human life, it reflects various offline relationships and interactions.

Among social relationships, the commencement and dissolution of romantic relationships could induce drastic physical, mental, and behavioral changes (Davis, Shaver, & Vernon, 2003), and these changes brought about by romantic relationships could be reflected on social media. According to a research statistic, people who got married in the United States between 2005 and 2012 responded that more than one-third of their marriages began online (Cacioppo, Cacioppo, Gonzaga, Ogburn, & VanderWeele, 2013). Furthermore, Facebook has been broadly and mostly used to find romantic partners across emerging markets such as India, Indonesia, Philippines, Vietnam, Brazil, Mexico, etc (Mims, 2014).

Several research results have presented the influence of social media in the initiation and development of romantic relationships (e.g., Cacioppo et al., 2013; Fox, Warber, & Makstaller, 2013; Lenhart & Duggan, 2014), but no one has explored how individuals' social media behaviors would change after the end of their romantic relationships. Relationship dissolution is a highly stressful and traumatic process and it is strongly associated with minor psychological

symptoms (i.e., loneliness, feeling of loss, and/or frustrations) as well as severe ones (i.e., insomnia or suicidal thoughts) (Kaplowitz, Fink, Mulcrone, Atkin, & Dabil, 1991; LaGrand, 1988; Sprecher, 1994). Although it is quite apparent that many people experience depression and lower self-esteem after breakups (Perilloux & Buss, 2008) and that depression, self-esteem, and social media addiction are significantly correlated to each other (Krircaburun, 2016), no study has attempted to find a connection between breakups and social media behavior prompted by breakups. Therefore, this study would explore the different psychological and emotional factors associated with breakups as well as social media use after the breakup to see how they are connected and influential to each other.

According to the Uses and Gratifications Theory (U&G), an individual actively consumes media and dedicates exposure time to fulfill his or her particular needs (Katz, 1959; Katz, Blumler, & Gurevitch, 1973). Especially in the digital era, new media gratifications are dominated by social and psychological factors (Sundar & Limperos, 2013) and internet users make a personal approach for media use and facilitate themselves to act and to construct their unique gratification of media consumption (Sundar, 2008). Thus, this study opens up the possibility that people could change their pattern or behavior of social media use to compensate for their physical, psychological, and behavioral loss after breakups and to obtain specific gratifications via social media.

This study will explore changes in an individual's social media use to fulfill particular needs after a breakup. Specifically, this study will find out whether the dissolution of romantic relationships can impact an individual's social media use. It will explore not only the direct relationship between a breakup and social media use but also how other mediated or moderated factors affect the relationship between these two variables.

## Literature Review

### **Breakups: A Strong Distress with Physical, Emotional, and Behavioral Reactions**

After romantic relationship is over, participants in that relationship are likely to go through breakup blues. Over 85% of adult Americans even reported that they have experienced at least one dissolution of romantic relationship (Battaglia, Richard, Datteri, & Lord, 1998). Various physical, emotional, and behavioral reactions have been associated with the end of romantic relationships (Davis, Shaver, & Vernon, 2003), due to the high levels of stress and trauma that can accompany the event (Bloom, Asher, & White, 1978; Menaghan & Lieberman, 1986; Stroebe & Stroebe, 1986). Romantic breakups have been shown to prompt feelings of guilt, insecurity, fear, anger, hatred, rejection, self-pity, emptiness, reduction in self-confidence, and a general feeling of being lost (LaGrand, 1988). People can also experience significant loneliness and frustration, as well as grief (LaGrand, 1988; Sprecher, 1994). In extreme conditions, breakups have even been shown to trigger deeper psychological symptoms such as depression, insomnia, and suicidal ideations (Kaplowitz et al., 1991).

Emotional and psychological reactions are not the only types of reactions that result from breakups—significant behavioral changes can also take place. Fleming et al. (2010) found that increases in heavy drinking, marijuana use, and cigarette smoking were all associated with the dissolution of a romantic relationship. Davis et al. (2003) also mentioned that insecure attachment, particularly anxiety, was associated with taking drugs and alcohol to cope with their loss.

The dissolution of a romantic relationship increases the possibility of physical, emotional, and behavioral reactions, and there are some studies that attempt to identify the factors which present a strong association with distress prompted by breakups.

**Initiation of the breakup.** When people experienced a dissolution of the romantic relationship, it was rare that both sides of the relationship mutually agreed to end it (Hill, Rubin, & Peplau, 1976; Sprecher, 1994). Commonly, one partner wanted to end the relationship and initiated a breakup. In this situation, people who were rejected, compared to with those who terminated the relationship, were more likely to experience depression, loss of self-esteem, and rumination (Perilloux & Buss, 2008) as they perceived that their life event was far beyond their own control (Fiske & Taylor, 1984). People who did not initiate the breakup went through higher breakup distress when they felt that the breakup was unexpected, sudden, and that they were rejected and betrayed by their partner (Field, Diego, Pelaez, Deeds, & Delgado, 2009).

In contrast, people who rejected their partner felt happier and less lonely and depressed compared to the counterpart (Hill et al., 1976) after the breakup. They went through less distress (Sprecher, Feinlee, Metts, Fehr, & Vanni, 1998) and even felt free (Hill et al., 1976) although they felt more guilt (Hill et al., 1976) and reputational damage (Perilloux & Buss, 2008). They reported to have more confidence that they could find a better mate (Perilloux & Buss, 2008).

Likewise, a person's rejection status strongly impacted their emotions and psychological conditions. According to a research from Perilloux and Buss (2008), rejection status also affected the aftermath of breakup. These aftermath behaviors were exhibited more frequently among people who were rejected as they strived to solve the proposed adaptive problems (Perilloux & Buss, 2008).

**Relationship duration.** The duration of the relationship is highly associated with post-breakup distress. According to a research from Sprecher et al. (1998), among factors associated with distress after a breakup, duration of relationship and time since breakup turned out to be the most highly associated factors of current distress. A similar result was found by Simpson (1987)

that the duration of relationship was positively associated with the distress experienced after breakup. The longer people were involved in the relationship, the more likely that they experienced post-breakup distress.

**Responsibility in a breakup.** A perceived responsibility for the breakup is a factor which can impact the distress of a breakup. Sprecher (1994) reported that an individual's perceived responsibility was associated with post-breakup distress among participants who experienced a breakup. Not only responsibility for the breakup itself, but their perceived responsibility for the problems leading up to the breakup is an undesirable control (Grey & Silver, 1990) and is associated with distress (Sprecher et al., 1998).

### **Breakups and Depression**

Many scholars argue the causal relationship between breakups and depression in various aspects. Even though Ha, Dishion, Overbeek, Burk, and Engels (2014) claimed that breakups and relationship satisfaction were not related to changes in depressive symptoms or emotional expression in a positive or negative way, most other studies do not support their argument. Kaplowitz et al. (1991) and Sprecher (1994) found that one of the common symptoms following breakups was depression. Also, individuals with severe depression tend to recall vivid memories of unpleasant relationships in the past (Harvey, Flanary, & Morgan, 1986). Research from Kendler et al. (2010) showed that one of four stressful events that significantly predicted severe depression was a divorce or breakup, besides death of a close relative, assault, and serious marital problems.

Individuals who had a low sense of self-efficacy concerning their ability to control their emotional reactions when facing stressful events were predicted to suffer symptoms of depression in the first week following the end of a romantic relationship, but the severity of

depression diminished over time (Mearns, 1991). The severity of depressive symptoms and the capacity to cope with such a stressful event depend much on the person's self-efficacy on negative moods regulation (Catanzaro & Mearns, 1990; Kirsch, Mearns, & Catanzaro, 1990).

### **Breakups and Self-esteem**

Dissolution of romantic relationships lowers the involved person's self-esteem. According to a research from Luciano and Orth (2017), in the beginning of a relationship, people's self-esteem increased persistently when the relationship lasted longer than a year. However, when they experienced a breakup, their self-esteem hit lower levels compared to those who stayed in their romantic relationship. Nevertheless, after a year, the effects of breakups disappeared and the difference in self-esteem between those who had broken up and those who had stayed in the relationships was no longer statistically significant.

Perilloux and Buss's study (2008) also supported a similar viewpoint. The research showed that people who were rejected, regardless of their gender, experienced loss of self-esteem, depression, and rumination more than those who initiated the rejection. In addition, Waller and MacDonald (2010) reported that their initial level of self-esteem would affect the level of post-breakup distress. When participants had traits signifying low self-esteem, they exhibited greater distress after experiencing rejection from their partners than after they initiated the breakup, whereas the level of distress did not differ in participants with a high self-esteem whether they initiated the breakup or were rejected.

### **Social Media as an Essential Part of Daily Life**

For many in contemporary society, the internet has become an indispensable part of daily life. A significant number of people throughout the world access the internet as part of their daily routine. In 2015, it was reported that 3.17 billion people are internet users, out of 7.3 billion of

the total world population (ITU, n.d.). Research also shown that 89% of American adults are current internet users in the year of 2018 (Pew Research Center, 2018a).

Along with the rapid growth of the internet, social media has significantly changed people's lifestyles as well as interpersonal communication methods. Social media is a highly interactive media platform which employs mobile and web-based technologies to share, co-create, discuss, and modify user-generated content among individuals and communities (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). Kaplan and Haenlein (2010) also defined social media as "a group of internet based applications that builds on the ideological and technological foundations of Web 2.0, and it allows the creation and exchange of user-generated content" (p.61). Of the 3.77 billion internet users in the world, 2.79 billion people are considered active social media users, meaning they logged into a social media platform and used it at least once within every 30-day period (Kemp, 2017). In 2005, only 10% of internet users in the U.S. used social media, but the number has rapidly increased since then. As of 2015, 76% of internet users in the U.S. use social media, comprising 65% of the adult population in the U.S. (Perrin, 2015). In 2018, the usage rate rose even up to 69 % (Pew Research Center, 2018a). According to research presented in 2016, 78% of the U.S. population has his or her own social media profile ("Percentage of U.S. population," n.d.). In 2017, global internet users spent an average of 135 minutes per day on social media, an increased number from 126 minutes in the previous year (Statista, 2017).

Not only is the number of social media users increasing, but social media platforms have also developed and diversified over time. In 2016, Facebook was the most popular social platform, with 79% of internet users in the U.S. using it. Instagram followed with 32% of



internet users actively using the platform, and Pinterest (31%), LinkedIn (29%), and Twitter (24%) rounded out the list (Greenwood et al, 2016).

As the name implies, “social” media plays a crucial role in social interactions and communication. Social media users actively interact with each other through self-presentation and exchanges (Walther, Tong, DeAndrea, Carr, & Van Der Heide, 2011). People post content in order to present themselves to others and show their perceived identities to their social friends. Users spontaneously post content—either self-generated or created by other users—so that other users can engage with their postings through reading, liking, commenting, and sharing. Multiple studies have shown that relationships that exist over social media are closely tied to real-life relationship, in variety of contexts. For example, teenagers in the U.S., identify social media as an important tool to build up new friendships as well as to strengthen existing friendships (Lenhart, 2015). Lenhart (2015) reported that 64% of teenagers have met new friends via social media and 94% of teenagers have spent time with their friends on social media. Furthermore, 66% of teenage participants also answered that social media is one of the top ways that they choose to communicate with their friends (Lenhart, 2015).

As well as social interaction, social media is also broadly used in a variety of everyday information exchanges—from news articles to political participation. For example, two-thirds of Americans (67%) reported getting at least some of their news from social media in 2017 (Bialik & Matsa, 2017), and social media and direct visits to news organization websites/apps represent primary sources of news for any individuals. Social media has also increased its influence over purchasing, resulting in the establishment of social media-based marketplaces. Recently, 62.3% of social media users reported that they made a purchase decision primarily influenced by social media (Chadha, 2017). Another recent study reported that 65.4% of social media users have

experienced purchasing an item directly through social media—with Facebook accounting for 73% of these purchases (Chadha, 2017). Social media plays a prominent role in politics. 66% of social media users - or 39% of all American adults- as of 2012 answered that they are engaged with some types of civic or political activities with social media (Rainie, Smith, Schlozman, Brady, & Verba, 2012). Furthermore, 43% of social media users also reported that they have decided to learn more about a political or social issue because of something they read about on social media (Smith, 2013).

### **Social Media and Romantic Relationships**

Romantic relationships, as well as other social relationships mentioned above, can be strongly tied with social media use. In the initiation of romantic relationships, social media as well as other online platforms (e.g., websites and mobile apps) are a useful tool to begin courtship. Lenhart and Duggan (2014) reported that 10% of internet users who are currently married or in a serious relationship with their partners said the internet had a major impact on their relationship—with 17% of users saying it had a minor impact. Fox, Warber, and Makstaller (2013) also highlighted the impact of social media on dating courtship, reporting that social media platforms make it easier to develop new relationships after an initial offline meeting. While social media interactions require minimum effort and emotional investment compared to face-to-face approaches, it also reduces the strain of rejection (Fox et al., 2013). Social media also allows people to investigate their potential dating partner by looking at their social media profiles and interactions with others to reduce uncertainty—a practice nonchalantly referred to as Facebook stalking (Gibbs, Ellison, & Lai, 2011; Henig, 2013).

Social media users exhibit changes in their media usage patterns after they start new relationships. For example, Duik (2014) found that Facebook users in the courting phase of their

relationship tend to slowly but steadily increase the number of timeline postings shared between the future couple. However, after the relationship officially begins, the number of timeline posts drops significantly (Duik, 2014). It is presumed that, as couples decide to spend time together in person and in the physical world, online interactions consequently lessened (Duik, 2014). The content of users' posts also changes at the onset of a new romantic relationship. Although the number of online interactions on social media reduces, their content becomes more affirmative and sweetened as they express more positive emotions such as "love", "kindness", "happiness", etc (Duik, 2014).

Social media are also tightly associated with the status of romantic relationship as a relationship develops and continues. However, scholars showed two distinctive opinions on the reasons behind making public romantic relationships on social media. Some researchers argued that it is a positive sign to show their relationships and to interact with their partners on social media. Dainton (2013) said that couples who displayed their relationship status on social media (e.g, "in a relationship") and posted pictures with their partners reported higher satisfaction in the relationship. Similarly, Papp, Danielewicz, and Cayemberg (2012) found that males who disclosed their relationship status and females who uploaded profile pictures taken with their romantic partners reported increased satisfaction in the relationship. Weigel's study (2008) showed that having positive interactions with one's partner, and providing assurance to them on social media could strengthen and nurture the relationship.

Muise, Dix, and Le (2014), however, found results that conflict with the studies mentioned above. Their research showed that people's psychological attachment styles can affect relationship visibility, an essential element of the self-image that the couple presents to others, on social media (Muise et al., 2014). According to their research, individuals with anxious

attachments wanted to reveal their relationship to others, as they believed it would make them feel more secure when other people knew about their relationship. On the contrary, individuals with more discreet attachments desired to hide their relationship from the public because they reportedly felt worse about themselves when other people knew about their relationship (Muisse et al., 2014). Emery et al. (2014) also added that people were more likely to frequently post about their partner or relationship on Facebook when they felt more insecure about their partner's feelings for them.

Social media, likewise, is closely connected to many individuals' daily lives. People's real-life circumstances and a variety of psychological factors, can significantly impact their social media usage patterns. However, even though various studies have attempted to understand the role of social media on initiating, developing, and starting romantic relationships, there are fewer studies that attempt to measure the impact that breakups in romantic relationships have on social media usage patterns, as well as other psychological factors such as depression and self-esteem. This study will try to reveal the impact of breakups on social media use and propose a model to explain the links between breakups and changes in social media usage patterns.

### **Social Media and Breakups**

Because human beings are social creatures, people have a fundamental desire to belong to a form of society in order to gain satisfaction from positive social interactions with others and ongoing relationships (Baumeister & Leary, 1995). As mentioned before, breakups in romantic relationships could arouse feelings of loss, loneliness, frustration, and hurt as well as lower self-esteem, depression, and even suicidal thoughts (Kaplowitz et al., 1991; Sprecher, 1994). The process of overcoming a breakup could consist of stressful and traumatic steps for some people (Strobe & Strobe, 1986). Lonely people were more likely to overshare information or personal

thoughts on social media and to over-disclose themselves in public (Al-Saggaf & Nielsen, 2014). Nearly 98% of lonely social media users shared their relationship status in the setting of “public” on Facebook instead of restricting the post to just their immediate friends; a large number of them also shared their home address on social media (Al-Saggaf & Nielson, 2014). Because lonely people initiated contact with others as a way to cope with their loneliness, they disclosed themselves even more to others on social media and online.

Social media could produce a sense of belonging as it allows users to access their social relationships and communicate with them whenever they desire (Tobin, Vanman, Verreynne, & Saeri, 2015). As people went through various physical, emotional, and behavioral changes after dissolution of romantic relationship, social media could provide a sense of belonging and connectedness and even decrease loneliness for a brief moment (Deter & Mehl, 2013).

People’s reactions after breakups, however, were diverse. According to the research from Lee and Bruckman (2007), people were more likely to be involved with either actively seeking out or avoiding ex-partners during the termination process of their romantic relationship. On the other hand, some people completely severed the connection with their ex-partners on social media and others were more engaged with social media activities hoping that their exes would notice them.

People also tend to surveil their ex-partners on social media to alleviate the amount of emotional distress and reduce the uncertainty (Sprecher et al., 1998). They defined social media surveillance when individuals sought information on social media regarding their ex-partners. This phenomenon was more accentuated when people did not initiate the breakup as they did not expect the termination of the relationship and it would increase their stress level as well as the uncertainty level (Sprecher et al., 1998). Marshall (2012) also indicated that Facebook

surveillance was associated with greater distress over breakups as well as negative feelings and longing for their ex-partners.

There are a number of research on which factors can predict people's reactions and behavior after breakups. Tokunaga (2011) illustrated that interpersonal surveillance over social media were related to age, internet self-efficacy, and integration of social media into their lives. The researcher described that when people were younger, and had low internet self-efficacy, and heavily attached to social media as a daily routine, they were more likely to surveil their romantic relationship on social media. Based on the research by Marshall, Bejanyan, Di Castro, and Lee (2013), attachment style could be another predictor of surveillance on social media. Their research found that the anxious attachment style was associated with Facebook jealousy as they had lower trust on their partners and also with Facebook surveillance. Interestingly, avoidance attachment style was negatively associated with both factors.

### **Social Media and Depression**

In the study of causality between social media use and depression, it is still uncontentious to figure out which side affects the other or if there is no correlation between them. Even though positive correlation was once found between depression and problematic internet use among Turkish college students (Tekinarslan, 2017), the research of Jelenchick, Eickhoff, and Moreno (2013) claimed that there was no supporting evidence to clarify a relationship between social media use and clinical depression. In addition to, Jelenchick et al. (2013) also added that there was no significant relationship between daily time spent on social media and depression among college students in the U.S.

Nevertheless, a number of scholars attempted to reveal the clear causal relationship between social media use and depression. Along with a study from Kraut et al (1998) which

concluded that Internet use is correlated to depression, loneliness, and stress, many studies discovered that excessive time spent on social media would affect a person's level of depression. One research revealed significant correlations between depression, self-esteem, daily internet use, and social media addiction (Kircaburun, 2016). Lin et al. (2016) found a significant association between social media use and increased depression. For instance, individuals who spend the most total time per day spent on social media had increased odds of depression compared to those who spent the least amount of time. Moreover, individuals who visited social media most frequently per week and those with a higher global frequency score had significantly increased odds of depression compared to the lowest counterparts (Lin et al., 2016). Kircaburun (2016) also maintained a similar point of view as the results of a study showed that social media addiction indirectly influenced the level of depressions of adolescents. Pantic et al. (2012) even added that the daily time spent on social media could be an adjuvant factor which affects the level of depressions of high school students. Furthermore, unwanted or negative social media experiences such as cyberbullying could increase the risk of depression (Rosenthal, Buka, Marshall, Carey, & Clark, 2016).

The causal link between depression and social media use, however, is not fully studied yet. A study revealed that variables of depression and loneliness functioned as significant predictors of internet addiction (Ayas & Horzum, 2013). However, the majority of studies focused more on the impact of social media on an individual's depression level rather than how depression or depressive symptoms could influence social media use.

### **Social Media and Self-esteem**

Individuals with lower self-esteem tend to gain more from their social media use to build a social capital than those who have higher self-esteem. Self-esteem worked as a moderator in

the relationship between intensity of social media use (in this case, Facebook) and bridging a social capital (Steinfeld, Ellison, & Lampe, 2008). Those with lower self-esteem were likely to avoid real-world interaction and desired to sneak out to virtual worlds such as social media in order to build a new and anonymous identity and to pretend to be whoever they want (Kircaburun, 2016).

## **Theoretical Background**

### **Uses and Gratification Theory**

Social media has fulfilled the dynamics of gratification of its users in their everyday lives (Wang, Tchernev, Solloway, 2012). According to Wang et al. (2012), people are driven to use social media by four different needs though not all of them are gratified by use: emotional, cognitive, social, and habitual needs. Similarly, Quan-Haase and Young (2010) presented six gratifications obtained from Facebook: pastime, affection, fashion, sharing problems, sociability, and social information. Likewise, social media users actively consume media platforms according to their needs, which supports the claim of the Uses and Gratifications (U&G) Theory.

The Uses and Gratifications (U&G) Theory is a theoretical standpoint that explains how and why people actively search out different media to fulfill their particular wants and needs (Katz, 1959; Katz, Blumler, & Gurevitch, 1973). The concept of an active user was contrary to the general assumption of a “passive audience” among scholars of media-effects at the time (Rubin, 2009). Media-effects research prior to the U&G theory studied how media influenced audiences. However, U&G changed the paradigm of media-effects, as it focused on what audiences do with the media and started focusing on an audience-centered approach. Scholars of U&G believed that audiences consumed specific media to satisfy their needs (Katz et al., 1973). Media consumers actively search and find the channels and messages they want in the mass



media environment for their satisfaction. This does not necessarily mean that audiences are extremely rational and selective in every media consumption. Since audience activity is not a perfect concept, it rather functions as a variable. Windahl (1981) argued that a range of audience activity did not only apply to media choice; the range covers from the possible orientations of the communication process to the communication sequence.

The needs of the audience can vary from each individual's interests, motivations, and media expectations. As such, different audiences have different experiences and seek different gratifications through their media consumption (Shao, 2009). Sundar and Limperos (2013) added that "gratifications obtained from media are largely based on a given user's pre-existing needs, rather than on specific technological features of media" (p. 506). Cooper (1997) believed that media is used to reinforce preexisting attitudes and behaviors.

As well as expanding the meaning of media in the digital era, user engagement in media has become more vigorous. Sundar (2008) argued that digital media transforms audiences' media experiences to engage with the content more actively. He insisted that individuals build up a personal approach for media usage with new media and that they construct a personal meaning. Sundar and Limperos (2013) stated that, unlike traditional methods of U&G research that focus on medium-related aspects, new media gratifications are dominated by social and psychological factors.

In the digital era, individual factors (e.g., emotions, psychology, or social factors) play more significant roles in media consumptions as people actively search for instant gratifications that new media offers (Bolton et al., 2013; Sundar & Limperos, 2013). As social media belongs to the category of new media (Lister, Dovey, Giddings, Grant, & Kelly, 2009), individual factors are critical in determining the user's gratifications on social media. Thus, the study hypothesized

that an individual's social media use would change after a breakup to compensate for their loss and to recover from depression and low self-esteem.

### **Research Questions**

**RQ1:** Does initiation of the breakup impact depression (RQ1a) or self-esteem (RQ1b)?

**RQ2:** Does relationship duration impact depression (RQ2a) or self-esteem (RQ2b)?

**RQ3:** Does responsibility for the breakup impact depression (RQ3a) or self-esteem (RQ3b)?

**RQ4:** Is post breakup social media use related to depression (RQ4a) or self-esteem (RQ4b)?

**RQ5:** Does negative self-esteem mediate the relationship between breakup initiation and post-breakup social media use?

**RQ6:** Does negative self-esteem mediate the relationship between breakup-prompted depression and post-breakup social media use?

**RQ7:** Does responsibility moderate the mediated relationship between initiate and social media use through negative self-esteem?

### **Method**

This study conducted a self-reported survey to understand the change of social media use after a breakup. Based on the U&G theory which expects an individual's media consumptions to fulfill its specific needs, the study hypothesized that social media use would be adjusted to cope with emotional and psychological variations prompted by a breakup in romantic relationships.

#### **Digital Natives**

Digital natives, a term coined by Prensky (2001), are defined as individuals who were born and raised with technology, which enables them to acquire technological skills naturally

(Palfrey & Gasser, 2013). They are usually born after 1980 and very familiar with the digital language in computers, video games, and the internet as they could easily access and are surrounded by a digital environment in their lives (Prensky, 2005). Digital natives commonly use technological product and do not have much difficulty using complex products or multi-tasking (Prensky, 2001; Rainie, 2006). Some scholars described them with different terms such as Net Generation (Tapscott, 1998), Millennials (Oblinger, Oblinger, & Lippincott, 2005), or i-Generation (Rosen, 2010).

The question, however, was raised among scholars if digital natives were actually superior to their prior generation in terms of the use of advanced digital technology. Margaryan, Littlejohn, and Vojt (2011) found out that digital natives showed a limited usage range of mainly established technologies, more with quantitative differences than skillfulness. Digital natives did not absorb the different learning style in a very short time, contrary to the Prensky's claim (2001). Akçayır, Dündar, and Akçayır (2016) also claimed that students' academic year, national culture, and their experiences with technology were important factors to determine digital native students, because being a digital native is not an innate talent but a result of acquired skills developed over time. Similar to these claims, Helsper and Eynon (2010) proposed that even though generation is a predictor of advanced interaction with the internet, breadth of use, experience, gender, and educational level are also important factors, some more important than the mere generational difference.

Despite the debate of technological advance among digital natives, it stands to reason that digital natives are leading the consumption of internet, smartphones, and social media and setting the digital trend at least in the U.S. In 2018, 89% of all adults in the U.S. used the Internet (Pew Research Center, 2018a). Among them, young adults between the age of 18-29 marked the

highest internet usage rate of 98%, followed by the age group of 30-49 with a 97% usage rate (Pew Research Center, 2018a).

Digital natives also stand out in social media use as well as smartphone penetration, compared to any other adult population. As of 2018, 69% of adults in the U.S. used at least one social media platform while people in the age of 18-29 showed the highest usage rate of 88% (Pew Research Center, 2018b). In smartphone usage, digital native groups between the age of 18-29 had the highest smartphone ownership of 94% compared to the average of 77% (Pew Research Center, 2018c) as well as the highest smartphone dependent rate of 28%, which shows how much they rely on smartphones for online access (Pew Research Center, 2018c).

### **Qualifications**

Digital natives, which are defined in this research as an individual in the age of 18-30 who currently live in the U.S., who experienced a breakup of a romantic relationship within the last 6 months were eligible to take the survey. As some scholars raised the question about the impact of the culture or region to see an individual as a digital native as well as the age itself (Akçayır et al., 2016; Helsper, 2010; Margaryan et al., 2011), this study examined only people in the U.S. to exclude cultural or regional aspects. They were also required to use social media at least once in the last 30 days to be considered as an active user.

Generally, researchers built up the criteria to define “a recent breakup” as the ending of a romantic relationship within the preceding 12 months (Mearns, 1991; Sprecher et al., 1998). However, this survey shortened the period from 12 months to six months to increase the possibility of vivid recall from more recent experience like another breakup-related research from Frazier and Cook (1993).

## Demographic Data

Of the 269 digital natives who attempted to take the survey, 94 were removed from the sample as they could not meet the qualifications of the survey participants or they dropped out during the process. Therefore, the final sample size for the study was  $N = 175$ .

A full demographic breakdown of the sample is included in Table 1. The sample consisted primarily of undergraduate students currently enrolled at the university (87.9%,  $n = 131$ ). The mean age for the sample was 21.7 ( $SD = 2.41$ ). The age group between 18-21 (49.7%,  $n = 86$ ) and 22-25 (41.6%,  $n = 72$ ) were fairly evenly-distributed whereas people of the age between 26-30 contributed a relatively small portion of the participants (8.7%,  $n = 15$ ). The sample is slightly biased as the sample consisted more of females (62.3%,  $n = 109$ ) than males (36.6%,  $n = 64$ ), and a significant portion of White in race (81.7%,  $n = 143$ ), followed by Asian (18.3%,  $n = 32$ ). The majority of the sample reported their sexual orientation as heterosexual (92.0%,  $n = 161$ ).

Table 1  
*Demographic Information*

		<i>n</i>	<i>%</i>
Gender:	Male	64	36.6%
	Female	109	62.3%
	Prefer Not to Answer	2	1.1%
Age:	18-21	86	49.7%
	22-25	72	41.6%
	26-30	15	8.7%
	Missing	2	
Race/Ethnicity:	White	143	81.7%
	Asian	32	18.3%
	Hispanic/Latino	10	5.7%
	Pacific Islander	5	2.9%
	Black/ African American	2	1.1%
	Native American/American Indian	2	1.1%
	Other	4	2.3%
Sexual Orientation	Heterosexual	161	92.0%
	Homosexual	1	0.6%
	Bisexual	5	2.9%
	Other	2	1.1%
	Prefer Not to Answer	6	3.4%

Note. "Race/Ethnicity" allowed for multiple answers, therefore, reported percentages will exceed 100.  
*N* = 175.

## Survey

The survey was required to measure four different factors to test research questions, adding to basic questions regarding the past relationship and demographics (i.e., gender, age, sexuality, initiation of breakup, relationship duration, etc.): Self-esteem, depression, social media use, and responsibility. Survey participants were recruited via social media, particularly Facebook and Instagram, and by distributing flyers on campus to take the online survey through Qualtrics. Participants were able to terminate the survey at any point of survey when they desired and a “Prefer not to answer” option was given in every question except for the first four screening questions.

**Self-esteem.** The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is the most broadly and frequently used method of measuring self-esteem (Lecomte, Corbière, & Laisné, 2006). However, as the RSES requires an extensive training and long interviews, a shorter-version of self-esteem rating scale called The Self-Esteem Rating Scale-Short Form (SERS-SF) was invented in 2004, consisting of 20 items with positive and negative self-esteem factors and rating on a 7-point Likert scale (Lecomte et al., 2006). An additional phrase was added before each item to evaluate self-esteem specifically after romantic dissolution: *After my most recent breakup...* to measure the specific effect of breakups.

Ten items each were given to measure positive self-esteem and negative self-esteem, and the extent of a participant’s self-esteem level was judged by the total score of the 10 items for each category. These items were answered on a 1-7 Likert scale, anchored with strongly disagree (1) and strongly agree (7), respectively. The sum of positive self-esteem was  $M = 53.52$ ,  $SD = 10.22$ ,  $\alpha = .904$  whereas the sum of negative self-esteem was  $M = 37.34$ ,  $SD = 14.09$ ,  $\alpha = .917$ .

Table 2  
*The Self-Esteem Rating Scale-Short Form (SERS-SF)*

*“After my most recent breakup...”*

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Positive Dimension
1— When I am with other people, I feel that they are glad I am with them
2— I feel that people really like to talk with me
3— I feel that my friends find me interesting
4— I feel that people have a good time when they are with me
5— My friends value me a lot
6— I feel confident in my ability to deal with people
7— I feel that I make a good impression on others
8— I feel that I have a good sense of humor
9— I feel that I am a very competent person
10— I feel confident that I can begin new relationships if I want to

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Negative Dimension
1— I wish that I were someone else
2— I feel inferior to other people
3— I am afraid I will appear stupid to others
4— I get angry at myself over the way I am
5— I feel that others do things much better than I do
6— I feel ashamed about myself
7— I feel that if I could be more like other people, then I would feel better about myself
8— I wish I could just disappear when I am around other people
9— I feel that I am likely to fail at things I do
10— I feel that I get pushed around more than others

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**Depression.** The PHQ-9, a self-reporting depression module, was developed in 1999 and composed of 20 items in original form. However, Kroenke, Spitzer, and Williams (2001) shortened the question items from 20 to nine. If a participant marks four or more in the shaded section, he or she is considered to have a depressive disorder, and the sum of the score determines the severity of the symptom (i.e., total score of 20-27: Severe depression, 15-19: Moderately severe depression, 10-14: Moderate depression, 5-9: Mild depression, and 1-4: Minimal depression) (Kroenke et al., 2001). An adjusted PHQ-9 was used to evaluate a participant's depression after a breakup ( $M = 11.02$ ,  $SD = 5.82$ ,  $\alpha = .890$ ) and it was required to replace the phrase “over the last 2 weeks of period” with “For the first two weeks after the breakup” to test a depressive disorder after breakups. The scale was not changed, and a 4-item measure was utilized, anchored with *Not at all* (0) and *Nearly every day* (3), respectively.

Table 3  
Adjusted PHQ-9 Scale

<i>For the first two weeks after the breakup, how often have you been bothered by any of the following problems?</i>	<b>Not at all</b>	<b>Several Days</b>	<b>More than half the days</b>	<b>Nearly everyday</b>
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

**Social media use.** The Social Media Use Integration Scale (SMUIS) was invented to assess social media use in 2013 (Jenkins-Guarnieri, Wright, & Johnson, 2013). SMUIS was developed to “measure the integration of the social behavior and daily routines of users, along with the importance of and emotional connection to this use” (Jenkins-Guarnieri et al., 2013, p. 38). Previously, the Facebook Intensity Scale (FIS) was frequently used, but the scale was limited only to Facebook users and could not be utilized for users of other social media platforms (Maree, 2017). Accordingly, the SMUIS attempted to make up for the limitations of the FIS and was more suitable for use across different platforms (Jenkins-Guarnieri et al., 2013).

As this study is not focused on one particular social media platform, it was imperative to replace the original word “Facebook” with “social media.” The questionnaires were also altered to compare participants’ behavioral and emotional states in using social media before and after the breakups. In addition, even though the SMUIS originally consists of a 6-point Likert scale, it was altered to rate on a 7-point Likert scale, consisting of strongly disagree (1) and strongly agree (7) for the purpose of unifying the scale of the SERS-SF, as it is less confusing for participants and easier to analyze the results. The mean, standard deviation, and alpha value for the adjusted SMUIS were  $M = 34.33$ ,  $SD = 11.16$ ,  $\alpha = .873$ .

Table 4

*Adjusted Social Media Use Integration Scale (Adjusted SMUIS)*

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*Comparing your life before your last breakup to your life now,  
how much would you agree with the following statements?*

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- 1— I feel more disconnected from friends when I have not logged into social media
  - 2— I would like it more if everyone used social media to communicate
  - 3— I would be more disappointed if I could not use social media at all
  - 4— I get more upset when I can't log on to social media
  - 5— I am more likely to prefer to communicate with others mainly through social media
  - 6— Social media plays a more important role in my social relationships
  - 7— I enjoy checking my social media account more
  - 8— I like to use social media less (Reverse coded)
  - 9— Using social media is a bigger part of my everyday routine
  - 10— I am more likely to respond to content that others share using social media
-

**Responsibility.** Perceived responsibility for the breakup was measured with two questions: “I feel like I was the cause of the breakup” and “I created the problem of our relationship that led to our breakup.” These two questions were made, based on research results that post-breakup distress is associated with perceived responsibility for both the breakup itself (Sprecher, 1994) and the problems inducing the breakup (Sprecher et al., 1998). The 7-point Likert scale was given to answer each question, anchored with strongly disagree (1) and strongly agree (7), respectively. The mean, standard deviation, and alpha value for the responsibility were  $M = 7.58$ ,  $SD = 3.51$ ,  $\alpha = .810$ .

### **Analysis**

Statistical analyses were performed in the SPSS statistical analysis software, using a conditional process modeling program called PROCESS (Hayes, 2012) in addition to bivariate correlation. Specifically, PROCESS Model 4 (simple mediation model) and PROCESS Model 8 (moderated mediation model) were used to test the model (Hayes 2013).

## Results

### Bivariate Correlation Matrix

A bivariate correlation matrix was created to examine relationships among situational variables, psychological variables, and media usage variable related to the breakup. As can be seen in Table 5, some strong correlations were found in the matrix between self-esteem and other variables.

RQ1 asked whether the initiation of the breakup was significantly related to depression (RQ1a) or self-esteem (RQ1b). Depression did not show any significant correlation with the initiation of the breakup, but the breakup was negatively related to positive self-esteem ( $r = -.159$ ) and positively related to negative self-esteem ( $r = .161$ ). It indicates that positive self-esteem increased when 'I initiated the breakup' and decreased when 'my partner did it'. Conversely, negative self-esteem decreased when 'I initiated and it' increased when 'my partner did it'.

Relationship duration was also examined to find a correlation with depression (RQ2a) and self-esteem (RQ2b). Relationship duration was not significantly correlated with depression and negative self-esteem, but it revealed a strong correlation with positive self-esteem inversely ( $r = -.198$ ). This signified that the longer people were involved in the relationship, the more their positive self-esteem got impacted and lowered.

Perceived personal responsibility of the breakup also had a strong correlation with self-esteem (RQ3b) whereas there was no significant correlation in depression (RQ3a). The matrix showed that when people felt more responsible for the breakup, it impacted their positive self-esteem negatively ( $r = -.156$ ) and negative self-esteem positively ( $r = .206$ ). People were more

likely to have lower positive self-esteem and higher negative self-esteem when they felt more accountability and guilt concerning how their relationship turned out.

Social media use showed a similar pattern to the other results. RQ4 examined the relationship between social media use to depression (RQ4a) or self-esteem (RQ4b) after the breakup. An adjusted SMUIS was examined and it exhibited a significant correlation with negative self-esteem ( $r = .222$ ) while no significant correlation was found with depression and positive self-esteem.

Table 5.  
*Bivariate Correlation Matrix*

	Breakup Initiation	Relationship Duration (Months)	Breakup Responsibility	Positive Self-Esteem	Negative Self-Esteem	Depression	Adjusted SMUIS
Breakup Initiation		-.073	-.035	-.159*	.161*	-.052	-.074
Relationship Duration (Months)			.080	-.198**	.010	.072	.130
Breakup Responsibility				-.156*	.206**	.095	.063
Positive Self-Esteem					-.542**	-.072	.007
Negative Self-Esteem						.201**	.222**
Depression							.057
Adjusted SMUIS							

Note. Bivariate correlations among variables.  $N=175$ .

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



### Relationship Between Breakup Initiation, Post-breakup Social Media Use, and Negative Self-Esteem

To answer RQ5, it was proposed that self-esteem, specifically the negative self-esteem, could act as a mediator to the relationship between the initiation of breakup and social media use in post-breakup period. After using a conditional process modeling program called, PROCESS Model 4—simple mediation—was used (Hayes, 2008, 2013). A model was created to map the regression between the mediator (negative self-esteem) and the independent (breakup initiation) and dependent variable (post-breakup social media use).

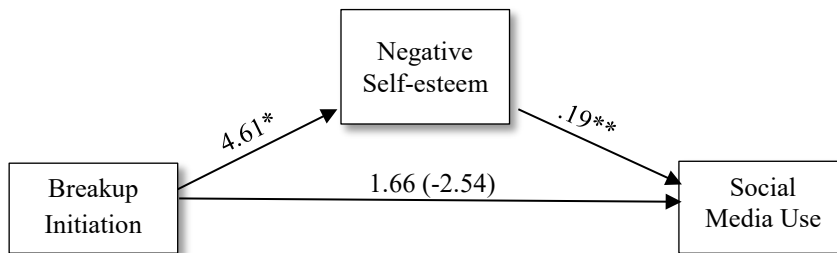


Figure 1. Parallel Mediation Model – Breakup initiation to social media use through negative self-esteem.  
\* $p < .05$ , \*\* $p < .01$ .

Figure 1 revealed that the predictor—breakup initiation—and the outcome—post-breakup social media use—were mediated by negative self-esteem ( $F[1,161] = 4.30, p = .0397$ ). Breakup initiation predicted the mediator (negative self-esteem) along the  $a$  path ( $b = 4.6076, SE = 2.22, t[161] = 2.0732, p = .0397$ ), such that those whose partners initiated the breakup reported higher levels of negative self-esteem. The mediator then affected post-breakup social media use along the  $b$  path ( $b = .1913, SE = .06, t[160] = 3.1343, p = .0020$ ), such that those with higher levels of negative self-esteem reported higher levels of social media use. The direct effect between breakup initiation and social media use (path  $c'$ ) was non-significant ( $b = -2.5400, t[160] = -1.4567, p = .1472$ ). It should be noted that both Hayes (2009) and Shrout and Bolger (2002),

among others, have established that a significant total effect (*c*) is not a prerequisite for meditation to occur, so the mediation path is valid.

### Relationship Between Depression, Post-breakup Social Media Use, and Negative Self-Esteem

RQ6 led to a proposal that negative self-esteem could serve as a mediator between breakup-prompted depression and post-breakup social media use. PROCESS Model 4—simple mediation—was also used to answer RQ6 (see Figure 2). In this figure, the regression between the mediator (negative self-esteem) and the independent variable (breakup-prompted depression) and dependent variables (post-breakup social media use) was shown.

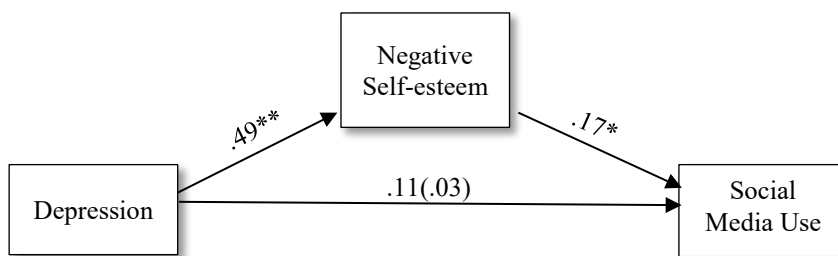


Figure 2. Parallel Mediation Model – Breakup-prompted depression to social media use through negative self-esteem. \* $p < .05$ , \*\* $p < .01$ .

Figure 2 presented that the predictor—breakup-prompted depression—and the outcome—post-breakup social media use—were mediated by negative self-esteem ( $F[1,171] = 7.17, p = .0081$ ). Breakup-prompted depression predicted the mediator (negative self-esteem) along the *a* path ( $b = .4875, SE = .1820, t[171] = 2.6781, p = .0081$ ), such that those who went through depression aroused from a breakup reported higher levels of negative self-esteem. The mediator then affected post-breakup social media use along the *b* path ( $b = .1695, SE = .06, t[170] = 2.8131, p = .0158$ ), such that those with higher levels of negative self-esteem reported

higher levels of social media use. The direct effect between breakup initiation and social media use (path  $c'$ ) was non-significant ( $b = .0271, t[170] = .1850, p = .8534$ ).

### The Moderating Role of Breakup Responsibility

RQ7 asked whether responsibility moderated the mediated relationship between initiate and negative self-esteem. To test this, PROCESS model 8 was used with breakup initiation as the predictor, negative self-esteem as the mediator, social media use as the outcome, and perceived responsibility as a moderator along the  $a$  path (Hayes, 2008, 2013). The resulting model was significant ( $r = .34, R^2 = .12, F[3,159] = 7.1095, p < .001$ ) (see Figure 3), revealing an interaction effect between initiation and perceived responsibility when considering negative self-esteem as the outcome ( $a$  path) ( $b = 1.5467, SE = .60, t[159] = 2.5840, p = .0107$ ).

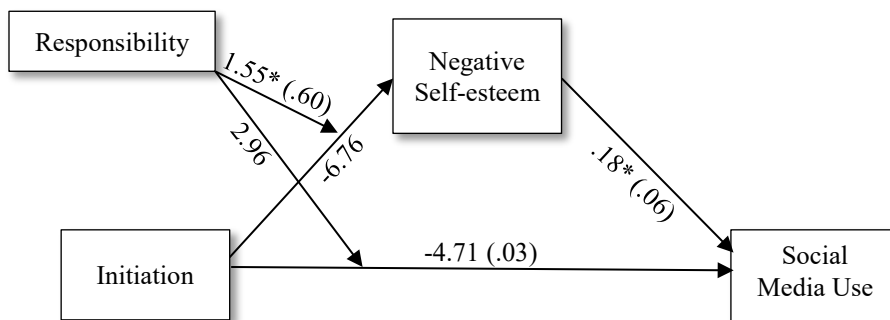


Figure 3. Moderated Mediation Model – \* $p < .05$ .

To interpret what this interaction means in relation to the mediator of negative self-esteem, it is necessary to review the conditional effect at varying levels of the moderator, as shown in Table 6. To summarize this data, for those who initiated the breakup, and those who felt perceived responsibility for the breakup at the mean or higher, experienced a significant increase in negative self-esteem. Meanwhile, those at levels lower than the mean did not experience a significant change. In short, the answer to RQ7 is yes because greater perceived responsibility (at

the mean or above) led to greater increases in negative self-esteem, which was then significantly related to post-breakup social media use. This suggests that the perception of responsibility for a breakup may, consequently, impact one's self-esteem negatively.

Table 6.  
*Conditional Effect of Focal Predictor at Values of the Moderator*

Responsibility	Effect	SE	t	p	LLCI	ULCI
2.0000	-3.6705	3.9236	-.9355	.3509	-11.4196	4.0786
2.6000	-2.7425	3.6272	-.7561	.4507	-9.9061	4.4212
3.2000	-1.8144	3.3431	-.5428	.5881	-8.4170	4.7881
3.8000	-.8864	3.0747	-.2883	.7735	-6.9589	5.1861
4.4000	.0416	2.8266	.0147	.9883	-5.5408	5.6241
5.0000	.9697	2.6044	.3723	.7102	-4.1741	6.1134
5.6000	1.8977	2.4155	.7856	.4333	-2.8729	6.6683
6.2000	2.8257	2.2681	1.2459	.2147	-1.6538	7.3052
6.8000	3.7538	2.1707	1.7293	.0857	-.5333	8.0409
7.1087	4.2313*	2.1424	1.9750	.0500	.0000	8.4625
7.4000	4.6818*	2.1301	2.1979	.0294	.4748	8.8888
8.0000	5.6098*	2.1497	2.6096	.0099	1.3643	9.8554
8.6000	6.5379*	2.2277	2.9348	.0038	2.1382	10.9375
9.2000	7.4659*	2.3584	3.1657	.0019	2.8081	12.1237
9.8000	8.3939*	2.5337	3.3130	.0011	3.3899	13.3979
10.4000	9.3220*	2.7450	3.3960	.0009	3.9006	14.7433
11.0000	10.2500*	2.9847	3.4342	.0008	4.3553	16.1448
11.6000	11.1781*	3.2465	3.4431	.0007	4.7662	17.5899
12.2000	12.1061*	3.5255	3.4339	.0008	5.1432	19.0690
12.8000	13.0341*	3.8179	3.4139	.0008	5.4937	20.5745
13.4000	13.9622*	4.1209	3.3881	.0009	5.8234	22.1009
14.0000	14.8902*	4.4323	3.3595	.0010	6.1364	23.6440

Note:  $N = 163$ .

## Discussion

This study explored the contribution of several factors to the social media use following the breakup of a romantic relationship, supporting the Uses and Gratifications Theory as individuals experienced recent breakup seek to fulfill their particular emotional needs by making social media a greater part of their daily life and consuming the media actively. The findings show that self-esteem plays a great role in a breakup and post-breakup social media use while depression has a limited connection with a breakup and breakup-related factors, which is not consistent with previous findings (Harvey et al., 1986; Kaplowitz et al., 1991; Kendler et al., 2010; Sprecher, 1994).

The study finds that positive self-esteem and negative self-esteem is correlated with similar factors except relationship duration. Positive self-esteem has an inverse correlation with breakup initiation, relationship duration, and breakup responsibility, and negative self-esteem has a positive correlation with breakup initiation, breakup responsibility.

When an individual is rejected by their ex-partner, their positive self-esteem can be harmed, which is similar to the research of Perilloux and Buss (2008). This means for those who initiate the termination of a relationship are less damaged in their positive self-esteem, comparable with the study from Sprecher et al. (1998) as they experience less distress after the breakup. The initiation of breakup is also strongly associated with negative self-esteem. When a partner put an end to the romantic relationship, an individual's negative self-esteem increases, while the partner's negative self-esteem decreases. Clearly, who initiated the breakup affects both positive and negative self-esteems of rejector and rejectee. However, contrary to previous findings (Hill et al., 1976; Perilloux & Buss, 2008), depression does not show any correlation with an initiation of the breakup in this research.

The longer the duration of the romantic relationship, the lower their positive self-esteems would be. Interestingly, however, the length of the relationship does not impact the negative self-esteem. In short, the longer a romantic relationship lasts, the more likely their positive self-esteem will be curtailed while negative self-esteem remains the same or at least is not changed significantly by it. This finding goes with some previous findings (Simpson, 1987; Sprecher et al., 1998) that longer relationship periods would lead to more severe post-breakup distress. In this research, the correlation between relationship duration and the depression could not be found as well.

A person's perceived responsibility for the breakup and for the problems leading to the breakup derives lower positive self-esteem and higher negative self-esteem compared to the time before the breakup. When they feel responsible for the breakup and the cause of the breakup, feelings of guilt, shame, or self-destruction can possibly accommodate such a sense of responsibility. Or they can even feel that they are compromising and sabotaging their own happiness due to the fear of commitment or the fear of being vulnerable. These perceptions can be destructive towards an individual's feeling of self-worth and therefore their self-esteem can be impaired.

Post-breakup social media use is linked to negative self-esteem, while it does not exhibit any meaningful association with positive self-esteem or depression. As social media could produce a sense of belonging to their users (Tobin et al., 2015), an individual who experiences the breakup can have a stronger desire to connect with others and use social media more as a social habit, compared to the time of pre-breakup in order to countervail their increased negative self-esteem. Interestingly, unlike previous research which reported the significant correlation

between depression and heavy social media use (Kircuburun, 2016; Lin et al., 2016), this study result did not find any correlation between the two factors.

Though it was not a formatted research question, it is important to note that the research found a significant relationship between negative self-esteem and depression, which confirms the results of multiple studies that revealed a strong negative correlation between self-esteem and depression (e.g., Brockner & Guare, 1983; De Man, 1999; Dori & Overholser, 1999; Kingsbury, Hawton, Steinhardt, & James, 1999; Kircaburun, 2016; Tennen & Herzberger, 1987). According to several research outcomes, low and decreased self-esteem is a predictor of depression (Orth, Robins, & Roberts, 2008; Sowislo, & Orth, 2013), so it is vital to pay attention to a person who undergoes lowered positive self-esteem and/or increased negative self-esteem after the breakup not to suffer from depression afterwards.

### **Mediating Role of Negative Self-esteem**

Negative self-esteem functions as a significant mediator in the parallel mediation models tested in this study. This means that negative self-esteem serves an explanatory role for social media use. In the cases of both predictors—breakup initiation and breakup induced depression—there was no direct relationship with social media use. Only when one considers the individual's level of negative self-esteem this relationship become apparent. In short, a breakup initiation status or depression does not directly lead to more intensified integration of social media use. However, the initiation of breakup or depression increases the level of negative self-esteem, which induces a stronger attachment to social media use. This observation is reinforced by research results that indicate that individuals with low self-esteem have a higher tendency of gaining more from their social media use (Steinfeld et al., 2008). Even though being rejected by

a partner aggravates positive as well as negative self-esteem, it turns out that positive self-esteem does not mediate the status of breakup initiation and the change of social media use.

In addition, the measure for negative self-esteem used in this study asked subjects to report on their self-esteem level as a result of their most recent breakup, which presents a case for a causal link between the predictors and the negative self-esteem levels reported by subjects. Within the current design, however, it is too early to definitively claim that such a causal relationship either exists or carries over to social media use. Nevertheless, it establishes negative self-esteem as a variable that needs closer consideration, as it is only examined, thus far, by a handful of researchers looking at relationships and breakups (e.g., Perilloux & Buss, 2008; Slotter, Gardner, & Finkel, 2010; Waller & MacDonald, 2010). Moreover, this study attempted to find a mediator to predict the change of social media use in the daily life which has hardly been carried out in the research field.

### **Breakup Responsibility: A Key of Breakup--Social Media Use Relationship**

As explained above, the result of this study demonstrated that negative self-esteem mediates the relationship between the breakup initiation status and social media use. In addition to this finding, perceived responsibility for the breakup and the cause of the breakup serves as a significant moderator while negative self-esteem mediates the relationship between the breakup initiation—the predictor— and social media use—the outcome— in the moderated mediation model examined in this study. Perceived responsibility for the termination of the relationship affects the strength of the relationship between the breakup initiation and social media use as well as the strength of the relationship between the breakup initiation and negative self-esteem.

When a person has a lower level of responsibility in the breakup, though he/she is rejected from their partner, it does not affect their negative self-esteem, which engenders no



significant change in social media use. However, when they feel a heavier sense of responsibility in the breakup or in the problems causing a breakup, it would impact their negative self-esteem. Accordingly, their damaged negative self-esteem takes a turn for the change of social media use with stronger integration into their daily life. In short, breakup responsibility is a key function to determine to what extent a person's negative self-esteem increases after the breakup initiation from a partner, leading to change in their social media usage pattern.

### **Suggested Implications for the Future**

As for implications that this research has, it may be crucial to utilize these findings to raise awareness about the effects of breakups for those who experience breakups. With the understanding that breakups may lead to unhealthy and overly-attached use of social media, individuals who experience breakups can prevent themselves from coping with their own negative self-esteem in what may not be the best way. With what is such a common experience, seeing that over 85% of adult Americans have experienced a breakup (Battaglia et al., 1998), it may help many people to control their social media behaviors and seek help to cope with their negative self-esteem prompted by breakups.

For educators and practitioners, since they may face students or patients who suffer from severe social media attachments or addictions due to breakups, knowing about the results of this research may help them identify the underlying cause and enhance the self-esteem of the students or patients, and suggest an effective solution to the problem.

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

The current study attempted to find the influence of breakups in romantic relationships on social media use among digital natives. This study attempted to propose a differentiated

viewpoint on social media research to focus on an intimate connection between activities of daily living and social media use, but it is not without limitations.

First, the sample size of the current study is not large enough to detect a large effect. Due to the limitation of time, the valid number of survey participants was only 175 in this study. Therefore, it is possible that significant effects were undetectable with the current sample size.

Second, the sample is weighted towards a limited region, race, and sexual orientation. Though the study tried to collect data from participants with more regional, racial, and sexual diverse by recruiting them through social media, as the survey link was usually distributed by the acquaintance of the researcher, it was hard to have a perfectly accurate representative of the whole digital native generation in the U.S. For instance, out of 175 survey participants, 148 participants replied that they currently live in the state of Utah (84.6%). In the racial composition, survey participants mostly consisted of White (81.7%,  $n = 143$ ) and Asian (18.3%,  $n = 32$ ). Even if the research was not limited to a certain sexual orientation, due to the researcher's background which came from a strong religious/Christianity community, it was hard to reach out to people with a sexual orientation other than heterosexual (92.0%,  $n = 161$ ). To escalate the reliability of the research, it is required for future research to enhance the sample representativeness similar to the regional, racial, and sexuality ratio of digital natives in the U.S. with a bigger sample size.

Thirdly, this research has delved into the correlations and dynamics between breakups and social media use. However, it does not show how these correlations are manifested in the actual social media usage behaviors of those who experienced the recent breakup. (i.e., total amount of time spent on social media, the frequency of social media posts and engagement, types of social media platforms used, and usage of key words that indicate certain symptoms of

negative self-esteem). Therefore, further studies can research the specific patterns or changes of the subjects' social media usage behaviors.

Finally, additional comparison with people who have not experienced a recent breakup is suggested. The current study only focuses on people who have gone through a breakup with their romantic partner within the last six months. It was meaningful to find the factors which affect the level of distress prompted by breakups and which are associated with social media use. However, to enhance the clarity of breakup factors, it will prove to be profitable to compare a group without a recent breakup to the original sample with recent breakup experience to examine how the same factors apply differently to each group.

## Conclusion

Social media is an essential part of our daily lives to make a connection with others and to interact with them beyond the offline setting. Especially for the digital natives who are very familiar with the digital culture and technological devices due to prevalent exposure to the digital environment since the birth, social media is highly attached to their life pattern. This study examined how a life event is intertwined with social media use among digital natives as their lives seem strongly intertwined with digital technology. The Uses and Gratifications Theory, which asserts that the choices of content, amount of time spent, and other decisions made by users of media are actively sought according to their personal needs, fits to the frame laid out in the current study. In this case, the impact on the individuals' negative self-esteem create new and specific needs described by the theory.

The current study selected a breakup of romantic relationship as an intense life event for digital natives as it causes a great amount of distress afterwards and extensive changes in their psychological states (i.e., anger, insecurity, self-esteem, and depression). This study found that some breakup factors can induce change in social media use and can also cause an individual to be more integrated with social media in their daily lives. Notably, negative self-esteem plays a key mediating role between breakup initiation status and the change of social media use as well as in the relationship between depression and change in social media use. In addition, it is also an interesting finding that negative self-esteem arises when a person's perceived responsibility towards breakup or the cause of the breakup is high in the setting of being rejected by their partner. This increased negative self-esteem engenders stronger integration of social media in their daily lives.

Future research should extend the sample size to achieve higher reliability as well as a more accurate representation of the sample by increasing diversity in region, race, and sexuality. It is also suggested to compare the group of people who have not experienced a recent breakup with the original sample group to see the clear impact of breakups among various factors.

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