

Usage Behavior of Social Network Sites in the Aftermath of Terrorist Attacks

Research-in-Progress

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Abstract

Recent terrorist attacks and several terror alerts have increased the need to investigate the behavioral consequences of these threats. This research-in-progress paper focuses on the motivational factors determining usage behavior of social network sites (SNS) in the aftermath of terrorist attacks. Based on terror management theory (TMT) and uses and gratifications theory (U&G), this paper argues that people reminded of their mortality by terrorist attacks are motivated to seek information and communicate about the attacks on SNS to defend their cultural worldviews and maintain their self-esteem. The paper contributes to the understanding of factors driving people's usage behavior of SNS in the aftermath of terrorist attacks.

Keywords: Social network sites, U&G, terror management theory, usage behavior, information seeking, social communication

Introduction

Terrorism, in contrast to other forms of violence, is characterized by the political motivation of violence, the noncombatant nature of its executors, and by the subnational or clandestine affiliation of terrorists (Ruby 2002). The events of September 11, 2001 confronted people in Western countries with the salient threat of terrorist attacks (Yum and Schenck-Hamlin 2005). Since then, several terrorist attacks have taken place in Europe and the United States, including the Madrid train bombings of March 2004 (Carresi 2008; Miguel-Tobal et al. 2006), the suicide attacks in central London in July 2005 (Rubin et al. 2007; Bux and Coyne 2009), the Boston Marathon bombing in April 2013 (Hu et al. 2014; Singh et al. 2014), and the terrorist attacks on *Charlie Hebdo* in Paris in January 2015 (An et al. 2016; Kiwan 2016).

These recent assaults mark the emergence of a new type of terrorism that is unlike much of the political terrorism of the 20th century: it is decentralized and diffuse, often motivated by religious beliefs, and aims not at achieving short-term political goals but for universal transformation of the world, with a belief that its absolute end justify its absolute and fatal means (Crenshaw 2000). This type of terrorism is often interpreted as a random and senseless form of violence, making it uncontrollable and, in the common perception, close to warfare (Ruby 2002). Both the actual physical terrorist attacks as well as alerts—such as those in Brussels, Paris, and Munich—have threatened people in Western countries and increased their

fears of themselves becoming victims of terrorism (Doosje et al. 2009; Fischer et al. 2007). Moreover, terrorist attacks and alerts have created a new sensibility regarding the implications of terrorism for daily life by engendering a global psychological state of uncertainty, fear, and terror (Bux and Coyne 2009).

There is evidence that these changes in people's states of mind, which are characterized by increased levels of fear, uncertainty, and anger, can be linked to a change in their usage behavior of social network sites (Boyle et al. 2004). As a constantly growing community increasingly uses social network sites (SNS) such as Facebook and Twitter, these sites become especially important for information exchange during crisis events (Cohen 2013; Hughes et al. 2008; Simon et al. 2015). This implies that crisis-related information no longer comes from a central, official response agency, but also from victims or citizens who use SNS (Heverin and Zach 2012; Ling et al. 2015). In addition, people increasingly use SNS to learn about crisis events and thus try to reduce their own uncertainty (Boyle et al. 2004). Furthermore, people rely on SNS for news about the consequences of crisis events in order to share opinions or moral support, or to connect quickly with other users and receive information about the wellbeing of family and friends (Kaewkitipong et al. 2012).

Only a few studies have addressed the issue of SNS usage behavior by the general public in the wake of a terrorist attack. Researchers have focused instead on SNS usage behavior during campus shootings (e.g., Ada et al. 2010; Heverin and Zach 2012; Palen et al. 2009), the content of Twitter posts during various terrorist attacks (e.g., Burnap et al. 2014; Simon et al. 2014), or other behavioral consequences of terrorist attacks such as increased prejudice against potential out-groups (Das et al. 2009). Thus, research on the factors that influence SNS usage behavior in the specific context of terrorist attacks is—to the best of our knowledge—still lacking, and further research is needed to identify factors that determine SNS usage behavior, particularly in the aftermath of terrorist attacks. We are especially interested in the individual psychological factors preceding actual SNS usage in the wake of terrorist attacks, which requires exploring both the emergence of individual motivations to use SNS and the behavioral consequences of these motivations. To address this issue, we combine the theoretical perspectives of terror management theory (TMT) and uses and gratifications theory (U&G) to understand the psychological factors driving SNS usage behavior of people in the wake of terrorist attacks.

TMT suggests that humans collectively negotiate their worldviews through their social environment. According to TMT, terrorist attacks remind people of their vulnerability and mortality, and thus threaten their cultural worldviews, which typically protect them from this awareness (Dunkel 2002; Pyszczynski et al. 2003). Hence, when people are confronted with reminders of mortality, they employ psychological defenses aimed at reducing anxiety by embracing their worldviews and enhancing their self-esteem (Hayes et al. 2010). U&G proposes that psychological needs and goal-directed behavior induce people to use certain media for need satisfaction (Katz et al. 1973/1974). Combining the insights of both theories in the context of terrorism, we argue that people need to reestablish a stable conception of reality and meaning in the aftermath of a terrorist attack. We suggest people use SNS to overcome the threat of terrorist attacks and reestablish their worldviews.

The purpose of this research-in-progress paper is to examine how increased perceptions of mortality salience due to terrorist attacks influence SNS usage intentions with respect to information seeking and social communication. We provide a theoretical background and hypotheses on the following research question: Why do people use SNS in the wake of terrorist attacks, and what are the psychological factors that motivate usage behavior? Hence, the arguments of this study provide the background to assess the motivations of people using SNS in existentially threatening situations such as terrorist attacks. Our findings will be of interest to policymakers, SNS service providers, and crisis response organizations such as government agencies or public and private crisis response organizations.

The remainder of this article is organized as follows. The section that follows presents the theoretical background on the psychological impacts of terrorist attacks, TMT and U&G, and their implications for usage behavior of SNS; furthermore, it explains the interplay between TMT and U&G and presents our research model. Based on these insights, we develop hypotheses on the usage behavior of SNS influenced by the need to maintain self-esteem and the desire to reestablish worldview in the wake of a terrorist attack. We next propose a research methodology and then discuss the contributions and implications of our approach.

Theoretical Background

Psychological Impacts of Terrorist Attacks

Terrorism is considered as psychologically more disastrous than other forms of crises (Miller and Landau 2005). Unlike in socio-technical crises, outrage in the wake of a terrorist attack is not an unintended consequence. On the contrary, the loss of life and suffering in the wake of terrorism can be ascribed to intentional human behavior, and its aim can be described as psychological warfare (Ditzler 2004). Contemporary terrorism is described as “a new species of trouble”, given that it involves a very few individuals achieving enormous impact in a very short period (Slovic 2002).

Terrorism has been found to be associated with feelings of loss of control, high uncertainty, and high vulnerability (Lee et al. 2009; Lee et al. 2010; Shiloh et al. 2007), because the random nature of the event creates the impression that it can happen almost anywhere at any time (Ruby 2002). These feelings lead, in turn, to the emergence of negative emotions (Bux and Coyne 2009; Lee et al. 2010; McArdle et al. 2012), particularly fear and anger (Feigenson et al. 2004; Fischhoff et al. 2012; Henderson et al. 2004; Lerner et al. 2003; Rosenboim et al. 2012) but also sadness (Lee et al. 2009), concern (McArdle et al. 2012), and fatalism (Henderson et al. 2004).

Thus, terrorism reminds people of their vulnerability (Shiloh et al. 2007). The psychological impacts of terrorism are not limited to victims and bystanders, but affect the general community (Rubin et al. 2007; Huddy et al. 2002). In line with this, Schuster et al. (2001) show that symptoms of stress occurred across the United States three to five days after 9/11. Furthermore, people identified with victims of the attacks and perceived the attacks as being directed at themselves (Schuster et al. 2001). In addition, a substantial number of people changed their behavior after the 9/11 terrorist attacks—for example, avoiding public transportation and highly frequented public places (Huddy et al. 2002). Similarly, after the London bombings in July 2005, people tried to travel less out of fear they would be victims of a terrorist attack themselves (Rubin et al. 2005). Thus, terrorism creates feelings of anxiety and threat not only among those affected directly but also in broader society. In the next section, we introduce TMT, which provides a theoretical explanation of the psychological and behavioral consequences of terrorist attacks on people.

Terror Management Theory

The psychological effects of existential threats on people’s behavior and attitudes have widely been examined through the application of TMT (e.g., Greenberg et al. 1997; Pyszczynski et al. 2003; Burke et al. 2010). TMT claims that first, people who have been threatened existentially by reminders of death defend their cultural worldviews and try to maintain their self-esteem. According to Pyszczynski et al. (2003), cultural worldviews are humanly constructed beliefs regarding the nature of reality that function to overcome death-related threats and are shared by individuals in a group. The culturally derived worldview enables humans to feel valuable and provides meaning, order, and stability (Salomon et al. 1991; Greenberg et al. 1997). Self-esteem is obtained by believing in the validity of one’s cultural worldview and in living up to the standards that are part of that worldview (Pyszczynski et al. 2004). In practice, this means that believing to be a good Christian or a good American, for instance, predicates psychological security (Greenberg and Arndt 2012).

Although people believe in the veracity of their culturally derived worldviews, no culture’s explanation for a worldview is likely to be literally true. Therefore, self-esteem and cultural worldviews are maintained by social consensus and by altering physical surroundings in accordance with the vision of a worldview (Pyszczynski et al. 2003). Reminders of death are assumed to produce more positive feelings and opinions towards people who embrace cultural worldviews similar to one’s own, and to produce negative judgment towards those who support competing worldviews (Greenberg and Arndt 2012). For example, Burke et al. (2010) show that people confronted with existential threats advocate their cultural worldviews and defend their cultural in-groups. In particular, people buffer existential anxiety by considering themselves as valuable contributors to their cultural worldview (Burke et al. 2010).

The assumptions of TMT have received support for different domains of human social behavior. Mortality salience, for instance, increases prosocial behavior and attitudes (Jonas et al. 2002) but also aggressive behavior against worldview-threatening others (McGregor et al. 1998). Moreover, close romantic relationships serve as anxiety buffers against existential threats (Florian et al. 2002). Thoughts of death

increase people's preferences for others who praise their country over those who criticize the country (Arndt et al. 1997; Greenberg et al. 1990; Harmon-Jones et al. 1997). In addition, mortality salience has a positive effect on stereotypic thinking (Schimel et al. 1999). Furthermore, people cling to their own cultures to cope with an existential threat (Nelson et al. 1997). Consequently, reminders of death make people aware of their mortality, which increases the need for protection of their beliefs—achieved through defense strategies for upholding their cultural worldviews and for maintaining self-esteem.

According to TMT, terrorist attacks disturb the normal ways of managing terror and hence threaten the psychological equanimity needed to function on a daily basis. Terrorist attacks remind people of their mortality and vulnerability, and threaten people's cultural anxiety buffer that usually protects them from this awareness (Pyszczynski et al. 2003; Dunkel 2002). To cope with death-related fears caused by outrage over terrorism, people strive for self-esteem and try to strengthen and validate their own cultural worldviews to reduce the anxiety associated with death-related thoughts. For example, Das et al. (2009) demonstrate that news reports about terrorism foster prejudices against out-groups. The authors suggest that this reaction is aimed at suppressing the terror evoked by mortality salience. Moreover, Dunkel (2002) shows that the attacks of 9/11 were perceived as symbolizing a disdain for Western culture. Thus, terrorist attacks not only threaten people's lives but can also be seen as an attack against their cultural worldviews (i.e., basic Western cultural beliefs and values such as democracy; Das et al. 2009).

In summary, TMT claims that human behavior is motivated by the desire for worldview defense and self-esteem maintenance, under the conditions of mortality salience. Because cultural worldviews provide a buffer against the terror caused by death-related thoughts, people are motivated to defend their cultural worldviews. Accordingly, terror management consists of a cultural worldview defense strategy to maintain self-esteem (Yum and Schenck-Hamlin 2005). Hence, people continually strive to strengthen these psychological entities as they provide protection against death-related anxiety, and in doing so they adapt their behaviors, manifesting positive reactions towards individuals who support their own worldviews and negative reactions towards those who threaten them (Weise et al. 2008). Moreover, as Boyle et al. (2004) show, changes in people's states of mind after the 9/11 terrorist attacks—in particular, increased levels of fear, uncertainty, and anger—can be linked to changes in media usage. The next section discusses uses and gratifications theory (U&G), which helps explain the motivation behind SNS usage behavior.

Social Network Sites and Uses and Gratifications Theory

The increased use of SNS has changed the ways people form an understanding of the daily events surrounding them. People often turn to SNS to fulfill psychological needs deriving from social disruptions (Veil et al. 2011). In violent crises, for instance, they make use of them to connect with friends and family, seek and share information, make sense of the events, and express empathy (Heverin and Zach 2012; Kaufmann 2015; Mazer et al. 2015; Omilion-Hodges and McClain 2016; Palen and Vieweg 2008). Thus, SNS change the ways violent crises are perceived by introducing word-of-mouth and social processes in crisis communication (Latonero and Shklovski 2011). In addition, there is evidence that people increasingly use SNS in the aftermath of terrorist attacks. For example, the hashtag #JeSuisCharlie spread across SNS in the immediate aftermath of the *Charlie Hebdo* attacks because people wanted to show solidarity with the victims. It was the most frequently used hashtag on Twitter in the hours after the attacks (Kiwani 2016).

SNS enable users to construct unique user profiles, access digital content, protect the digital content from platform search mechanisms, establish a list of users with whom they share a connection, and view and traverse these connections (Kane et al. 2014). Additionally, SNS enable users to see detailed information about their contacts, such as interests and personal backgrounds of friends, and utilize several tools for communicating with other users, such as leaving public comments in profiles, chatting, linking to other content, and sharing information (Gil de Zúñiga et al. 2012). SNS include, among others, popular platforms such as Facebook, Twitter, and YouTube (Duggan et al. 2015).

Following the assumptions of U&G, people experiencing particular psychological needs actively select communication channels they deem most likely to fulfill those needs (Lometti et al. 1977). That is, audiences select media channels intentionally based on their prior needs and motivations to satisfy those needs (Blumler 1979). U&G investigates both the motives of media usage, that is, social and psychosocial antecedents of behavior, and furthermore considers the consequences associated with media usage. Because media compete with other sources of need satisfaction, a particular communication medium typically serves only very specific needs (Katz et al. 1973/1974).

Gratifications provided by SNS differ from those of other communication media. Internet communication is generally considered as more interactive than traditional media, more asynchronous, and generally not a mass communications channel (Ruggiero 2000). New media such as SNS favor higher degrees of audience selection and content control that stress the users' potential to select usages and content to satisfy their specific needs (Chaffee and Metzger 2001).

Shao (2009) proposes that three stages of user needs drive SNS usage: fulfilling needs for information, entertainment, and mood management by means of content consumption; enhancing social connections through interactions with content and other users; and expressing one's self by producing one's own content. Similarly, Wang et al. (2012) argue that SNS users typically pursue four types of needs: emotional needs, which reinforce pleasurable or emotional experiences; cognitive needs, which refer to users' knowledge and understanding; social needs, which are related to maintaining contact with friends and family; and habitualized needs, which help structure users' daily routines. In fact, empirical evidence suggests that social activities such as socializing and keeping in touch with others and knowing about others' activities are a primary motivation for SNS usage (Park et al. 2009; Quan-Haase and Young 2010; Raacke and Bonds-Raacke 2008; Whiting and Williams 2013). Similarly, seeking and sharing information (Hicks et al. 2012; Liu et al. 2016; Park et al. 2009; Whiting and Williams 2013), self-expression (Dunne et al. 2010, Park et al. 2009), and entertainment (Hicks et al. 2012; Park et al. 2009; Whiting and Williams 2013) are relevant drivers of SNS usage. Furthermore, convenience (Hicks et al. 2012; Whiting and Williams 2013) and passing time (Hicks et al. 2012; Quan-Haase and Young 2010; Whiting and Williams 2013) notably affect adoption of SNS.

We argue that needs driving people's SNS usage in the wake of terrorist attacks are triggered by mortality salience as well as threats to worldviews and to self-esteem resulting from the attacks. In the following section, we explain the expected increase of SNS usage and how TMT can inform U&G to motivate SNS usage in the wake of terrorist attacks.

Combining Insights and Research Model

U&G generally does not explain how actors' psychological and social backgrounds, needs and motives, behaviors, and consequences of these behaviors relate to each other (Ruggiero 2000). To address this issue, we refer to TMT, which complements U&G in explaining the psychological antecedents and motivations driving SNS usage behavior after terrorist attacks. Psychological antecedents typically contain concepts that influence the selection of the media, the amount and motivation of media usage, as well as possible outcomes of media usage (Papacharissi 2009). In line with TMT, we argue that people's SNS usage behavior is subject to changes induced by reminders of death, such as terrorist attacks (e.g., Jonas and Fischer 2006; Pyszczynski et al. 2003). In particular, we expect that people exposed to death-related thoughts in the wake of terrorist attacks will develop increased needs to reestablish a secure value system of meaning, that is, a cultural worldview, and to maintain their self-esteem, which affects their SNS usage behavior.

U&G distinguishes between content gratification, which is gained from media content, and process gratification, which is obtained through using the media (Rubin 2009). We argue that, on the one hand, a terrorist attack will lead to information-seeking behavior, that is, to seeking and consuming information about terrorist attacks for the purpose of content gratification. On the other hand, it will cause social communication behavior, such as discussing and sharing opinions, as well as sharing content such as hyperlinks to stories or pictures about an attack, which fulfills process gratification needs.

Figure 1 is an overview of the interdependence of U&G and TMT.

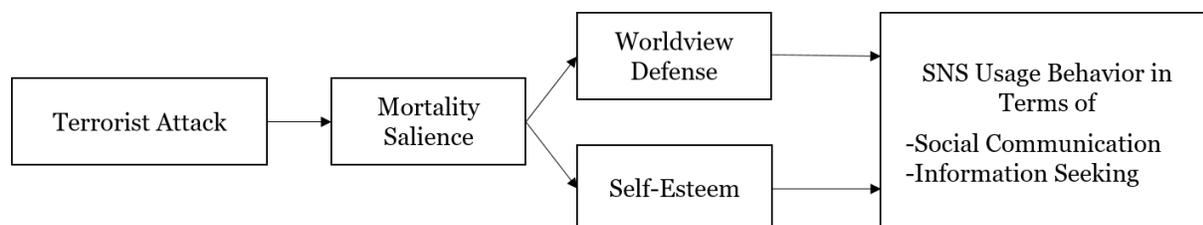


Figure 1. Theoretical model representing the insights of TMT and U&G

Thus, combining the insights of both theories in the context of terrorism suggests that people use SNS to cope with the threat of terrorist attacks and the death-related thoughts by helping them defend and reestablish a stable conception of reality. In the next section, we explain the relationships between the components of TMT and U&G.

Development of Hypotheses

Terrorist attacks and their consequences remind people of their mortality (Jonas and Fischer 2006). As Greenberg et al. (1997) show, individuals who are aware of their mortality are more likely to try to reinforce cultural worldviews and reject people with different worldviews. Hence, we argue that mortality salience caused by terrorist attacks creates a need to defend one's cultural worldview (e.g., Western values and lifestyle) against other worldviews (e.g., religiously motivated terrorism). Self-esteem serves as a protective shield to control the terror aroused by mortality salience (Pyszczynski et al. 2004). To maintain or pursue this buffer against death-related thoughts, people develop the need to strive for self-esteem. Consequently, we assume that:

H1: *Terrorist attacks have a positive effect on mortality salience.*

H2a: *Mortality salience due to terrorist attacks has a positive effect on people's need to defend their worldviews.*

H2b: *Mortality salience due to terrorist attacks has a positive effect on people's need to strive for self-esteem.*

The validation of a person's cultural worldview and the maintenance of self-esteem are accomplished largely through interactions with others. On the one hand, agreement and approval derived from relationships with other people provide support for the correctness of one's worldview and help maintain self-esteem. Therefore, they increase the effectiveness and stability of a person's anxiety buffer. On the other hand, disagreement and disapproval from other people threaten one's worldview and self-esteem, and thus reduce the stability of one's anxiety buffer (Pyszczynski et al. 2004). Hence, TMT claims that people who are different in terms of believing in another worldview represent a threat to a person's faith in the correctness and validity of their own worldview and a threat to self-esteem. This perceived threat is a danger to the protection the worldview provides against existential fears (Pyszczynski et al. 2003). Moreover, findings in TMT research show that mortality salience strengthens the desire to follow and intensify faith in one's cultural worldview and its order, meaning, and stability (e.g., Arndt et al. 2004; Greenberg and Arndt 2012; Burke et al. 2010). This again triggers people to pursue behaviors that restore the consistency of their worldviews.

In line with Yum and Schenck-Hamlin (2005), we argue that communication, such as exchanging opinions and feelings, is highly important for coping with terrorist attacks and reducing people's anxiety that arises from the increased need to validate feelings and behaviors. In so communicating, people compare their feelings and behaviors with those of others and try to identify whether others share similar cultural worldviews. Furthermore, we claim that people with feelings of explicit existential threat are more likely to share and discuss information that has worldview-threatening content to convince others of the superiority of their own worldviews. Additionally, as Yum and Schenck-Hamlin (2005) point out, it is likely that people will try to talk to strangers to verify their feelings.

Moreover, Dutta-Bergman (2004) show that after 9/11 people used the Internet to complement interpersonal communication. Since the accessibility and popularity of SNS in the crisis context is growing (Cohen 2013), we argue that after a terrorist attack people will similarly use SNS to complement interpersonal communication, for example, to discuss their opinions related to the attack and also to try to convince others of their own worldviews after a terrorist attack. We claim that people's attempts to defend their worldviews and need to maintain self-esteem have a positive effect on their SNS usage behavior for social communication.

H3a: *The psychological need to defend one's worldview has a positive effect on people's intentions to use SNS for social communication after terrorist attacks.*

H3b: *The psychological need to maintain one's self-esteem has a positive effect on people's intentions to use SNS for social communication after terrorist attacks.*

Terrorist attacks and the anxiety they trigger can, furthermore, motivate information-seeking behavior on SNS. Valentino et al. (2009) argue that people seek information if it is useful for achieving their goals or solving their problems. Boyle et al. (2004) show that people used the Internet after the 9/11 terrorist attacks for information seeking to reduce uncertainty. Similarly, people who are threatened existentially show a preference for information that supports their worldviews and, thus, prefer information helpful in achieving their aim of defending their worldviews (Jonas and Fischer 2006). People need information about an event to get a reasonable and comprehensive picture of the event to acquire understanding (Pyszczynski et al. 2003). This information, in turn, helps in defending the correctness of their cultural worldviews. Hence, we claim that people seek information about the events, which helps them defend the correctness of their cultural worldviews and helps them maintain their self-esteem.

In addition, Pyszczynski et al. (2003) state that after 9/11 people were drawn to watching news and reading the latest reports on the attacks. They argue that media constitute a primary source for receiving information about global and large-scale events such as terrorist attacks (Pyszczynski et al. 2003). Due to the increased use of SNS in recent years, we claim that the need caused by terrorist attacks to defend cultural worldviews and maintain self-esteem have a positive effect on information seeking via SNS.

H4a: *The psychological need to defend one's worldview has a positive effect on people's intentions to use SNS for information seeking after terrorist attacks.*

H4b: *The psychological need to maintain one's self-esteem has a positive effect on people's intentions to use SNS for information seeking after terrorist attacks.*

Methodology

Laboratory Experiments

We propose to evaluate the effects of mortality salience due to terrorist attacks on SNS usage behavior by means of a laboratory experiment conducted with undergraduate students at the authors' home university. Participants will be informed that the aim of the experiment is to identify the relationship between attitudes, personality, and SNS usage behavior. They will be allocated randomly to treatment and control groups. Members of the treatment group will receive mortality salience treatments. In line with previous research, we assume that reminders of recent terrorist attacks can serve as effective reminders of death (Dunkel 2002; Echabe and Perez 2015; Jonas and Fischer 2006; Landau et al. 2004; Pyszczynski et al. 2003). Therefore, we propose to utilize an essay referring to recent terrorist attacks as a mortality stimulus. Members of the control group will be given a neutral essay. The experiment will require that participants read the essays privately, after which the effects of mortality salience awareness will be measured by means of a structured questionnaire.

The purpose of the experiment is to evaluate the validity of the hypothesized causal relationship between terrorist attacks and SNS usage behavior. Laboratory experiments have been considered appropriate to investigate causal relationships between theoretical constructs. In particular, they are helpful in dealing with internal psychological constructs that cannot be observed without difficulty (Berkowitz and Donnerstein 1982; Dobbins et al. 1988). Due to the general restrictions of laboratory experiments, the generalizability of findings is limited by two facts. First, SNS are known to facilitate social interaction (Agarwal et al. 2008). Relying on a reductionist approach, it is likely that relevant social context variables are omitted. Second, artificial laboratory settings are likely to distort socially sensitive behaviors (Levitt and List 2007). Nevertheless, laboratory experiments provide the means to assess the internal causal mechanisms that precede observed behaviors. That is, while social processes can still mediate actual behaviors, insights into the individual psychological antecedents of these behaviors remain valid and can be transferred to real-world settings.

One might also argue that relying on a student sample limits generalizability. There is evidence, however, that undergraduate students are good proxies to study users of SNS in general. Being part of a new generation of "digital natives" now entering universities (Bennett et al. 2008), undergraduate students tend to be familiar with, and enthusiastic about, new technologies (Friedrich et al. 2010; Wesner and Miller 2008). Furthermore, they are said to make use of SNS extensively (Bolton et al. 2013). This is in line with other findings attesting to the high level of attractiveness of SNS, particularly Facebook and Twitter, to adults ages 18 to 29 (Duggan and Brenner 2013). Generally, there tend to be differences between student

and non-student samples, especially regarding effects attributable to age and education (Peterson 2001). In their review on TMT, Burke et al. (2010) assert, however, that student samples do typically manifest increased effects of worldview and self-esteem defense and striving, but there are no significant differences between the causal mechanisms of terror management in student and non-student samples. Therefore, we might expect higher treatment effects, but no discrepancies between the causal relations for student and non-student users of SNS.

Scales and Measures

Survey items will be adapted from previous research. Participants will be required to provide assessments on a set of scales relating to measures of mortality salience, self-esteem, worldview defense, and SNS usage intentions. Word-fragment completion tasks are typically used to measure mortality salience (e.g., Harmon-Jones et al. 1997; Greenberg et al. 1994; Landau et al. 2004). We propose to utilize established word-fragment completion tasks. Participants will be instructed to complete the fragments with the first word that comes to their minds. For example, a fragment might consist of the letters COFF__ and might be completed as, for example, COFFIN or COFFEE. Like this example, several words will be designed so they could possibly be completed either with a death-related or neutral word; higher percentages of death-related completions will be considered to signify increased mortality salience (e.g., Harmon-Jones et al. 1997; Greenberg et al. 1994).

To measure worldview defense, we propose a selective exposure measure procedure similar to that used by Jonas and Fischer (2006). It measures how participants evaluate information supporting a preexisting belief compared with information conflicting with that belief. Since people strive for cognitive consistency under mortality salience conditions, we expect participants will prefer the worldview-supporting information. We suggest measuring self-esteem with the 10-item Rosenberg Global Self-Esteem Scale (Rosenberg 1979).

To assess SNS usage for information seeking and social communication, we consider constructing a novel scale adapted from different scales used for measuring SNS usage behavior (e.g., Boyle et al. 2004; Gil de Zúñiga et al. 2012; Ross et al. 2009; Wang et al. 2014). For information seeking with SNS, the participants could, for instance, be asked whether they use SNS to follow news and search for information as a means of exposure to national government and politics (Boyle et al. 2004). For measuring social communication, participants could be asked, for example, whether they post comments, pictures, videos, or information queries about national government and politics (Andrew et al. 2010; Boyle et al. 2004).

Structural Equation Modeling

In TMT research, impacts of mortality salience are typically assessed using analyses of variance (e.g., Greenberg et al. 1990; Harmon-Jones et al. 1997; Landau et al. 2004). While this provides information on between-group differences between subjects in the treatment and control group, it does not enable conclusions on the causal relationships between the variables. Therefore, we propose to employ structural equation modeling to assess the validity of the proposed model. Thus, we will be able to construct unobservable latent variables and to model relationships between multiple dependent and independent variables (Chin 1998). Common factors will include mortality salience, worldview defense, self-esteem, and SNS usage behavior for information seeking and social communication. Owing to the early stage of research, the measurement model and structural model are yet to be established (Schreiber et al. 2006; Weston and Gore 2006).

Expected Contributions

The expected results of this study will have at least three practical implications for the management of SNS in the wake of terrorist attacks. First, since we could understand from this study that seeking and sharing information may help to buffer people's anxiety, crisis response organizations (such as government agencies or public and private crisis response organizations) may take the initiative and deliver reliable and relevant information—for instance about the background of the attack—on their SNS profiles. By providing such information, crisis response organizations could reduce uncertainty, help people acquire an understanding of the events and, thus, support people in coping with violent crises.

Second, by identifying and validating the factors determining the use of SNS after terrorist attacks, SNS service providers, policymakers, and crisis response organizations will have a better understanding of how to respond to people's comments in SNS. For instance, past research on TMT has shown that mortality salience could lead to negative judgment towards people with competing worldviews (Greenberg and Arndt 2012). The attention of SNS service providers, policymakers, and crisis response organizations could be drawn to the issue that discussions regarding prejudice or intergroup conflicts might occur and could develop response strategies. Calling for tolerance on SNS could, for instance, be a measure against hostile or intolerant comments on SNS (Yum and Schenck-Hamlin 2005).

Third, another finding of this study could relate to people's need to use SNS to express their opinions (e.g., sympathy with the victims), help them satisfy their need to validate feelings, and help them to determine whether they share perceptions on a subject in common with others. Thus, SNS service providers could continue to provide tools that allow people to show their sympathy in the aftermath of such events. For example, as is already possible in some SNS, an option could be to change one's profile picture to include an overlay of the flag of a country in which a terrorist attack occurred. However, SNS service providers should be aware that this option might be used to express intolerance or to spur increased intergroup conflict, and thus providers should take these factors into careful consideration.

Moreover, the paper offers two key theoretical contributions. First, the study advances the theoretical discussion of SNS usage behavior by proposing an integrated framework for researchers. The framework illustrates the utility of linking theories in understanding motivational and psychological influences on people's behavioral reactions, that is, their SNS usage behavior. Likewise, U&G theory profits from a meaningful explanation of the emergence of needs in an increasingly relevant area of research. Second, research still lacks an explanation for why people increasingly use SNS in the wake of violent crises. The findings add to the research on the behavioral effects of terrorist attacks by providing new insights and explanations on SNS usage behavior in crisis situations. We believe that by demonstrating the effects of individual psychological factors that drive the usage behavior of SNS, this work will provide an initial step toward an important new direction for research. Given that terrorism is at present one of the most prominent (and attention-grabbing) forms of crisis, insights from this research could inform research and practice in various fields to discuss and prepare for the consequences of such attacks.

Conclusion

This research-in-progress paper contributes to our understanding of people's usage behavior of SNS in the aftermath of terrorist attacks. The article brings together two complementary theoretical approaches, terror management theory (TMT) and uses and gratifications theory (U&G), to hypothesize why individuals use SNS for social communication and information seeking in the wake of terrorist attacks. The paper's focus is on the individual psychological motivations that precede actual SNS usage. We argue that mortality salience awareness caused by outrage over terrorism leads to increased needs to defend culturally derived worldviews and maintain individual self-esteem. These needs, in turn, motivate SNS usage to pursue social communication and information-seeking activities. Thus, using TMT, we provide a meaningful explanation of the emergence of psychological needs in the aftermath of terrorist attacks; and, using U&G, we provide a similarly meaningful explanation of the implications of these needs for SNS usage.

The paper opens various opportunities for future research relying on other data sources and research approaches. For instance, observing responses to terrorist attacks on SNS could yield insights into actual behaviors, as opposed to intended behaviors that will be produced in laboratory experiments. Similarly, research on other data sources—for instance, surveys of SNS users—could provide information on perceived and objective social influences on SNS usage behaviors. Such research could build on the proposed laboratory research in which exposure to the treatment can be controlled, and which allows for retracing internal causal mechanisms that precede actual behavior. Future research could thus complement the proposed laboratory experiment by considering the social context mediating behaviors and by attempting to generalize the theoretical understanding gained by the proposed research.

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