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언론정보학과석사학위논문

How Does Media Influence Suicide-Related Cognitions?

(뉴스 미디어의 자살 보도가
수용자의 자살 인지에 미치는 영향)

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Abstract

This study seeks to examine the mechanism by which the media affects individuals' suicidal cognitions and behavior by observing the psychological factors through utilization of both newspaper content analysis and a nationally representative survey.

Study 1 included a content analysis of suicide news coverage in South Korea. Data included suicide-related news stories sampled from a total of 19 news outlets between August and September 2016. A content analysis of suicide-related news sample was conducted with respect to attitude, self-efficacy, descriptive norm, and injunctive norm. A total of 481 news stories were retrieved. Near half of the news stories (40.5%) contained information that would either directly or indirectly affect readers' perception of suicidal self-efficacy (ease, difficulty, method, place, source of help, source that promotes suicide); specifically, about 36.59% of news stories seemed to contain information that positively affects suicidal self-efficacy and about 3.53% of news stories contained information that negatively affects suicidal self-efficacy.

Approximately one third of news articles (32.8%) contained information that influences readers' perception of descriptive norm regarding suicide. News stories

usually depicted numbers or statistics that point at an increasing trend or high rate of suicide in South Korea. Further, about a quarter of the sample (21.2%) included information that affects readers' injunctive social norm about suicide; in particular, 19.96% of articles conveyed disapproval of suicide while mere 1.25% portrayed negative injunctive norm regarding suicide (Referent others' approval/ disapproval, general others' approval/ disapproval). Only 4.3% of news stories seemed to contain information related to positive or negative outcome of committing a suicide; to specify, 2.1% of the sample depicted positive outcome and 2.3% depicted negative outcome.

In study 2, this study aimed to empirically test the relationship between the media contents and variables of the Theory of Planned Behavior by conducting a nationally representative survey between August 19, 2017 and October 5, 2017. Study participants consisted of 2,000 adults.

The survey results showed that the media exposure is positively related to all four TPB variables: attitude, self-efficacy, injunctive social norms, and descriptive social norms. Media exposure was positively related to suicide attitude, suicide self-efficacy injunctive social norms, and descriptive social norms, after controlling for sociodemographic, individual and family/ friend suicide history, and mental health

status.

The cross-sectional test was examined through hierarchical multiple regression predicting suicidal intention. After controlling other variables, the significant final beta of all of the TPB variables showed that attitude, self-efficacy, suicide injunctive norm, and suicide descriptive norm was each positively related to suicide intention. The results supported all the hypotheses H5, H6, H7, and H8.

Although media guidelines caution against depicting information related to self-efficacy and descriptive norm toward suicide, there were considerably high frequency of related information. Despite the fact that self-efficacy most heavily influences suicide intention, the results of content analysis show that almost half of the news stories in the sample contained information that affects self-efficacy toward suicide. Although the effect size is very small, if an individual is exposed to suicide information through the media, the fact that there is a significant positive relationship between media exposure and suicide intention seems to be worrisome. This study should be utilized as a suggestion to reporters to be cautious in handling suicidal news and related self-efficacy information.

This study has several limitations. First, to examine the relationship between the media and suicidal cognitions, more than one channel must be considered as

people are exposed to a plethora of information from various modes of communication. However in this study, I only analyzed media exposure through newspaper, thus limiting the scope of our study. Second, we use cross sectional survey to analyze our results, and this hinders our judgment of causality in the study. Furthermore, this study examines the most proximal predictor of suicide behavior through suicidal intention.

Keyword : Suicide, Theory of Planned Behavior, Media, Suicidal Cognition, Suicidal Ideation, Attitude, Self-efficacy, Injunctive Norm, Descriptive Norm
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1. Introduction

According to the Korean Statistical Information Service, the suicidal rate for South Korea was the highest among the nations enlisted in Organization for Economic Co-operation and Development with a total of 14,427 suicides in 2013 (Korean Statistical Information Service, 2014). While this was a mere 1.9% increase compared to the previous year, it coincides as a 32.4% increase since 2003. Since the same year, suicide has been ranked fourth in the causes of death in South Korea following cancer, cerebrovascular diseases, and cardiovascular diseases, while ranking first in the causes of death among the ages between 10 and 30 (Korean Statistical Information Service, 2014). This number averages to approximately 40 suicidal deaths per day and 29.5 per every 10,000 of the population, which is significantly high compared to the average suicide rate of 12.2 per 10,000 for OECD nations (OECD, 2015). Compared to 8.5 suicides per 10,000 in 1991, the number has almost quadrupled in barely 20 years. The same report indicates that in South Korea 43.2 men per 100,000 population have committed suicide in 2013, a number considerably higher than women's 17.8 (OECD, 2015). Suicidal rate for men has consistently shown a dramatic increase since 1991, and the percentage increase in the death due to intentional self-harm was higher than other commonly known causes of death which include diabetes, pneumonia, and liver disease (Lim, Lee, & Park, 2015).

Numbers have evidently and consistently cautioned that suicide is an imminent issue in our society and is in imperative need for attention.

The official definition of suicide as explicated by the World Health Organization is “an act deliberately initiated and performed by a person in full knowledge or expectation of its fatal outcome.” The definition by itself implies that suicide is an act that is conscious and even premeditated. Suicide methods usually require a meticulous contemplation and vary with drug intoxication being the most common, followed by gas poisoning, and strangling (Park & Lee, 2014). Although this underscores the tragic deliberateness of a suicide act, it suggests that it is thereby preventable at many stages prior to the ultimate behavior. Accordingly, suicide is not a one-shot phenomenon but rather a series of individual procedures, beginning with suicidal ideation, suicide planning, suicide attempts, and lastly suicidal behavior (Korean Statistical Information Service, 2014). Although the process does not advance in a predictable manner from one step to the next, a prevention of the prior steps may inhibit the development of the terminal behavior. Psychiatrists suggest that while other factors such as somatopsychological factors or social, economic, and cultural factors are difficult to alter in a shorter span of time, suicide attempts can be prevented by treatment of

psychological disorders including depression, a condition 80% of all suicide attempters experience before death (Kang & Lee, 2014).

Since 2004, Korea has been exclusively identified as the country with number one suicidal rate among the OECD nations, and unlike others that have shown decrease in suicidal death rate, that of Korea has shown a consistently increasing trend. However, although the rest of the OECD nations are faring better compared to the situation presented in Korea, suicide is still a major issue for them as well as the number of self-inflicted deaths in total for these countries reached over 150,000 in 2013 (OECD, 2015). The fact that other OECD nations have displayed decrease in suicidal rate while South Korea's suicidal mortality rate has persistently increased implies that an examination into the problematic situation in Korea may allow identification of the significant factors contributing to the differing rate between Korea and the rest of the OECD nations. Defining these factors in Korea, a nation with unprecedentedly high suicidal rate, may help to discern the important factors underlying suicide and also to prevent further deaths in the global population.

After first recognizing suicide as an emergent social issue after its steep hike following the economic crisis of 1998, South Korean government has indeed taken

the efforts to reduce suicide mortality rate through enforcing the “Act for the Prevention of Suicide and the Creation of Culture of Respect for Life” in 2011 and establishing the Korea Suicide Prevention Center the next year. Despite these attempts, suicide rates are still remarkably high compared to other OECD nations, and in the process of identifying the source of the problem, an attention was brought upon how the suicide prevention institutions were disseminating suicide-related information. Overall, information from not only the Korean Suicide Prevention Center but also any suicide-related information publicized via media seemed to violate the media standards for reporting suicide in a way that popularized suicidal intention and behavior (Kim, 2005).

This study seeks to examine the mechanism by which the media affects individuals’ suicidal cognitions and behavior by observing the psychological factors through utilization of both newspaper content analysis and a nationally representative survey.

2. Theoretical Background

1. Theory of Planned Behavior

To examine the underlying factors for suicidal behavior, the Theory of Planned Behavior (TPB) is applied to explain the mechanisms behind the process of persuasion. TPB is a model designed to provide “descriptions about people’s intentional and planned behaviors from a cognitive perspective” (Fishbein & Yzer, 2003) and can be utilized for persuasion efforts by explicating people’s internal information processing. Prior to Fishbein and Ajzen (1975; 1980), study models were simpler as to suggest that attitudes are single predictor of behavior and whether an individual holds a positive or negative evaluation of a certain behavior were believed to predict behaviors. By implanting individual and normative influences as indirect determinants and behavioral intention as a direct and strong determinant for a volitional behavior, Fishbein and Ajzen were able to discover a stronger correlational prediction for a volitional behavior. Fishbein and Ajzen’s original theoretical framework for TRA from is as follows:

$$BI = (A_B)W_1 + (SN)W_2$$

The most proximal indicator of an actual behavior, or behavioral intention (BI), is a function of individual influence and normative influence. Behavioral intention summarizes an individual’s level of motivation to act in a certain way and the degree of willingness to devote time and effort to perform the behavior (Rivis & Sheeran, 2003). Individual influence refers to one’s subjective attitude toward

performing a behavior (AB) while normative influence is the subjective norm (SN) the individual retains. Attitude is a subjective judgment of the degree to which the results of a certain behavior will bring positive or negative outcomes. An attitude toward performing a behavior is “a function of the beliefs that one holds regarding the behavior”, or more specifically, belief strength and belief evaluation (Fishbein & Ajzen, 1975). Belief strength signifies the degree to which a person holds a certain belief while belief evaluation is the extent to which an individual’s attitude is considered positive or negative. Subjective norm is comprised of two components: normative belief and the motivation to comply with the normative belief. Normative belief refers to how those who are important to the actor expects him to behave. Motivation to comply with the normative belief indicates the amount of actual or imagined pressure the actor believes his actions should correspond to the perceived expectation of others. $W1$ and $W2$ indicate empirically derived weights for attitude and subjective norm toward performing a behavior, respectively. Despite limitations and criticisms attributed to TRA, the theory is especially appealing to scholars for its specific identification of direct and indirect items to influence the performance of volitional behaviors.

An elaboration of TRA led to Ajzen’s development of Theory of Planned Behavior (TPB) with the inclusion of ‘perceived behavioral control’ as one of the

predictors for behavioral intention (Ajzen, 1985; 1991). Perceived behavioral control is a function of control beliefs and perceived power. Control belief refers to an individual's beliefs about whether there are certain factors that facilitate or hinder the behavior in question. Perceived power is the probability the actor subjectively believes the control belief to be present. The concept of perceived behavior control is interchangeable with Bandura's concept of self- efficacy (Bandura, 1977). In this sense, an individual performs a behavior only when he believes he has the sufficient ability to perform the act in addition to his belief that the particular behavior is reasonable through balancing his own attitude and perceived subjective norms for the behavior.

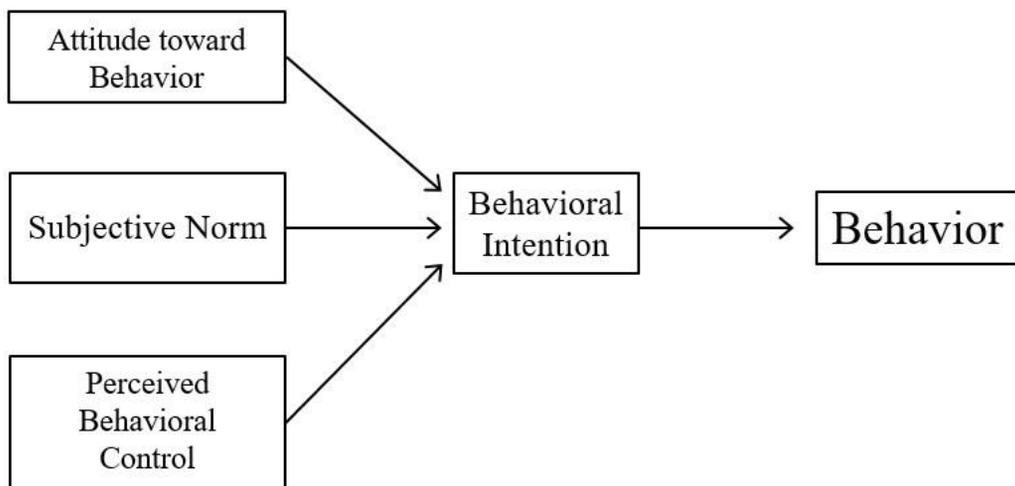


Figure 1. Theory of Planned Behavior

The primary assumption of TPB is that the three factors, or attitude, subjective norm, and self-efficacy, are the only channels through which other external factors can influence behavioral intention (Ajzen, 1985). This suggests individuals go through identical cognitive procedures mediated by attitude, subjective norm, and self-efficacy to perform any kind of behavior including a suicide attempt. For instance, despite multiple factors that may lead to an individual's suicidal intention and even suicide behavior, all of these are eventually mediated through the three aforementioned factors, making it easier to diagnose which predictor is activated.

When explicating the Theory of Planned Behavior, Hale, Householder, & Greene (2002) describes the theory's objective to be explaining volitional behaviors. Volitional behaviors refer to those that are 'voluntary and necessarily involve conscious decision making.' If the behavior falls outside the realm of this definition, it is no longer referred to as volitional behavior. These outliers include 'spontaneous, impulsive, habitual, results of craving, and simply mindless behaviors' as well as behaviors that may necessitate 'special skills, unique opportunities and resources, or cooperation of others' (Bentler & Speckart, 1979; Liska, 1984). In this sense, the intention and act of suicide appropriately falls within the scope of the theory's application. Suicide behavior is a self-inflicted harm that inevitably requires

tremendous amount of conscious planning. According to Fishbein & Ajzen (2010), to apply the theory to a certain behavior, beliefs about a certain behavior may be “irrational, incorrect, or motivationally biased,” but at the very least, it should be a reasonable and logical consequence to a cognitive basis from which it is formed. Although suicide is an act that can be perceived as irrational and incorrect, the theory comes into power in that it is able to explain why such an extreme, irrational behavior is performed by explaining the reasoning behind the factors that lead to action. Further, it may be argued that suicide is simply an act of anomaly that emerged from mental dysfunction and cannot be explained in terms of “normal psychological constructs”; however, the fact that suicide is an action that involves a large amount of planning before its execution through conscious processes including ideation, planning, and attempt implies that it is not a mere sign of illness and pathology (Van Heeringen, 2001). The scope of TPB research is appropriately extended to suicide as suicide is a behavioral outcome for mental disorders (Harris & Barraclough, 1997) instead of an illness itself.

2. Injunctive & Descriptive Social Norms

Social norms generally forewarn the subjects the standards for normality in a society or a culture. Cialdini, Reno, and Kallgren (1990) elucidates a conceptual distinction between two types of social norms: injunctive and

descriptive norms. According to Paek, Oh, and Hove (2012), integrating these normative mechanisms into the TPB model improves the accuracy of prediction and explanation of a health behavior. Injunctive norms typically indicate what should be done by constructing codes of conduct for a culture or a subculture. This set of norms delineates “what is typically approved or disapproved” within the cluster (Cialdini, Reno, & Kallgren, 1990). In addition to this category of social norms, there are descriptive norms that likewise heavily influence human behaviors. Cialdini, Reno, and Kallgren (1990) refers to this type of norms as “norms of is” that specify what is actually done. In other words, by merely registering how other members of the group are behaving, the subject is able to conveniently and accordingly discern the standard codes of conduct.

Many times an individual’s perception of what is typically approved or disapproved and what is actually done in a society are strongly correlated. While in reality the two norms highly overlap, the two are conceptually distinct as they are two different sources of motivation (Deutsch & Gerard, 1955). The key difference between injunctive and descriptive norms is that injunctive norms usually caution against an action while descriptive norms describe or inform a certain behavior. In other words, while injunctive norms direct people into behaviors through social evaluation, descriptive norms move people through social information (Cialdini, 2007).

The subjective norms in the Theory of Reasoned Action are considered injunctive norms because the concept refers to an individual's subjective perception of the social pressure or how important others evaluate a certain behavior (Rivis & Sheeran, 2003). On the other hand, descriptive norms concern the perceptions of important others' own attitudes and behaviors. They guide an individual toward a norm-congruent behavior by giving information about other people's behaviors and leading the actor to believe that if other people are behaving in a certain way, the behavior may be the wisest action to take.

According to Cialdini (2007), people often disregard or “severely underestimate” the extent to which their behaviors are directed by the actions of those around them. Numerous studies have found a strong relationship between descriptive social norms and behavioral intention (Rivis & Sheeran, 2003; Conner et al, 1996; Sheeran & Orbell, 1999). According to a meta-analysis by Rivis & Sheeran (2003), there was a medium to strong correlation between descriptive norms and intentions and descriptive norms increased the variance explained in intention by 5 percent after attitude, subjective norm, and perceived behavioral control had been taken into account.

3. The Role of Media in Suicidal Cognitions and Behavior

Explaining the influence of media solely by TPB poses challenges; hence this section reviews the previous analyses of media effects in suicidal cognitions and behavior. The Theory of Reasoned Action posits that people's behaviors are reasonably determined from those people's acquired information and beliefs about the behavior in question. These information is derived from many sources including "personal experience, formal education, radio, newspapers, TV, the Internet, and other media, and interactions with family and friends." A tremendous number of previous studies have examined the suicide from the perspective of copycat suicides in what is referred to as "Werther Effect." While previous studies have looked at the influence of media on suicides as an act of imitation, this study examines the mechanism by which the information on media influences an individual's cognition thus followed by action. In other words, this study plans to extend the discussion to how the consumption of a plethora of suicide related news and information related released on the traditional and new media can shape the public's intention toward suicide.

The power of media in influencing suicide behavior has been repeatedly confirmed by past studies (for meta-analysis, see Pirkis & Blood, 2001). Thom et al. (2011) suggests three ways in which the media may influence suicidal

intentions: (1) as the media reports suicide stories with detailed methods, prominence, visualization, glamorization, emphasis on famous figures, or sensationalism, the number of ‘copycat’ suicides, or imitation suicides, surges. (2) In an institutional environment, media’s depiction of suicide in a certain style may lead to additional suicides among a group of interrelated individuals. (3) As suicide is recurrently and frequently portrayed in the media, the audience begins to perceive suicide as a reasonable and prevalent solution that can ameliorate life challenges, thus engendering normalization of suicide.

Mass communication executes an efficacious role in disseminating the norms, values, and meanings of particular behaviors (Jessor & Jessor, 1977). Copycat suicide, or the Werther Effect, which is the incidence of emulative suicides following media stories, seems to be one of the most prominent causes of media-inflicted suicide with almost 40% of studies in a meta-analysis reporting media’s valid influence on subsequent suicide behaviors (Cheng, Hawton, Lee, & Chen, 2007; Pirkis & Blood, 2010; Pirkis & Nordentoft, 2011; Gould, 2001), especially among adolescents (Swanson & Colman, 2013). Thus, exposure to another’s self-inflicted death elicits imitation in susceptible individuals (Jamieson, Jamieson, & Romer, 2003). Consistent with the social learning theory, an individual who witnesses other people in the same situation as

himself or herself commit suicide begins to perceive suicide as a solution to the problem he or she is experiencing (Bandura, 1977). Studies measuring the effect of either an entertainment or political celebrity suicide story were 14.3 times more likely to find a copycat effect than studies that did not (Stack, 2003). In a study that examined the long-term impact of celebrity suicide on suicidal intention, celebrity suicide was shown to be independently associated with suicidal intention as individuals were 5.93 times more likely to have severe level of suicidal intention (Fu & Yip, 2004). This was especially true for respondents who reported as having greater anxiety symptoms, less reason for living and more focus on irrational values. In Korea as well, most gender and age subgroups were at significantly higher risk of suicide during the 4 weeks after a celebrity suicide (Lee, Lee, Hwang, & Stack, 2014). The influence is four times greater if the story the individual comes across is non-fiction, and higher for those under psychological distress (Ha, 2004).

In a study conducted in Germany, the reports display that the news coverage do not need to be about celebrity suicide, but reports of non-prominent suicides can also have effect on individuals (Kunrath, Baumert, & Ladwig, 2010). After a media coverage of a railway accident, the number of railway suicides in the index period compared to the control periods increased 44% daily, and a

maximum of 8 suicides per day was reached about a week after the accident. This suggests that the media reports actually drew the public's attention to railways as a method of suicide, and this single factor alone can significantly increase the suicidal rates.

Behavioral contagion theory asserts that an individual has a preexisting motivation to perform a particular behavior, which is neutralized by an avoidance gradient, such that approach-avoidance conflict subsists (Wheeler, 1966). Avoidance gradient is the observer's internal deterrence against performing a certain behavior (Gould, 2001), and if suicide regularly appears on the media, this exposure by itself may depreciate avoidance gradient against suicide. Numerous studies have already confirmed the effects of media on subsequent suicide behavior; however, the literature has yet to distinguish through what mechanism an individual internally generates a suicidal intention.

1. Media Guidelines

In 2001 several government agencies and private health organizations, including the Center for Disease Control and Prevention (CDC), the National Institute of Mental Health (NIMH), the Office of the Surgeon General, the Substance Abuse and Mental Health Services Administration (SAMSA), the

American Foundation for Suicide Prevention (AFSP), the American Association of Suicidology (AAS) and the Annenberg Public Policy Center (APPC) published consensus recommendations for the media (Tatum, Canetto & Slater, 2010). Further, the World Health Organization had implemented the official guidelines for reporters periodically over the years (WHO 1998; 2008). The terms on these guidelines concordantly cover reporting specifications for suicide prominence, consequences to immediate community, detailed description of suicide method and location, inappropriate images, mental disorders, intervention or prevention information, celebrity suicide, and inappropriate language (CDC, 2001). The general guideline for journalists is that suicide should not be presented as a noble act or an act of heroism as irresponsible publicizing can popularize particular locations and methods, or even the actual act of suicide (Birchard, 2000).

Despite the persistent efforts to command the media workers toward responsible journalism that will seek a balance between the public's 'right to know' and an attempt to prevent conceivable damage, the evaluation of these efforts in media reports seems very disheartening. Tatum, Canetto, and Slater (2010) evaluated whether the guidelines in the recommendations for the media

reporting of suicide were abided in U.S. newspaper articles about suicide in 2002 and 2003. The results demonstrate that suicide stories often detailed suicide method (56%) and location (58%) but rarely provided information about warning signs and risk factors (1%), the role of depression (4%), the role of alcohol (2%), and prevention resources (6%). Also in Asia, Au, Chan & Yip (2011) evaluated the extent to which the mass media comply with the guidelines in Hong Kong, Taiwan, and Guangzhou. The results betrayed that only 4-14% provided sources for help-seeking and up to 90% printed with photos, and generally non-compliant suicide articles were prevalent in the newspapers of the three Chinese settings (Au, Chan & Yip, 2011). When individual interviews were conducted to journalists, 22 of the 34 suicide reporters and 13 out of 23 murder-suicide reporters had heard of and are aware of “contagion effects of news reporting about suicides” but many were skeptical of its actual influence (Jamieson, Jamieson, & Romer, 2003).

The Korean government has also officially announced guidelines for suicide reporting on July 29, 2004, underscoring the need for caution and social responsibility for journalists. In a study that assessed how the suicide reporting has changed in a Korean society since this announcement, the results showed that journalists seldom complied to these rules of conduct (Kim, 2005). Subsequent

assessments revealed that the official announcement did not make a significant improvement as the presence of sensationalism, positive reporting about suicide, display of suicide note, glamorization of suicide, and emotional agreement all increased while no reference to the distress and aftereffects of the families were acknowledged (Kim, 2005). In another study conducted by Lee and the colleagues (2014), after celebrity suicide, the number of suicide-related articles reported outpoured roughly 80 times in the week after the suicide compared with the week prior. Further, when examining the extent to which the indiscriminate media coverage of an actress suicide affects suicide, the results showed that majority (80.5%) had inappropriate headlines, half (50.9%) used glamorous or sympathetic expression, and about 40% used inappropriate visual materials (Ji et al, 2014). As a result, there was a significant increase in suicide during the four weeks after the actress' suicide. During this period, the number of copycat suicides significantly increased in both genders and all age groups among those who committed suicide using the identical method as portrayed by the media (Ji et al, 2014). Moreover, a number of articles (37.1%) violated several integral items on the WHO suicide reporting guidelines, and a few went as far as to illustrate detailed suicide methods with the use of computer graphic to simulate the situation (Ha, 2004). The news story itself does not promote or foster an individual's suicidal intention, but it is the method by which the news is delivered that elicits a

dramatic effect. Journalists' irresponsible delivery of news may instigate the most extreme decision of all to end life and the prevention of such violation falls in the hands of the communication scholars to accurately and properly guide the journalists.

2. Types of Media

The portrayal of suicide has varying influence depending on the type of media channel employed. Pirkis & Blood (2010) conducted a meta-review of researches regarding the effects of media portrayals of suicide on suicide behavior. According to the review, which considered studies of both traditional media (newspaper, television, books) and newer media (the Internet), a total of 41 studies that examined the effect of newspaper reports on suicide suggest that there is a “consistent, strong, coherent, and causal association” between media’s depiction of suicide and the actual behavior. Studies based on TV stories were 82% less likely to report a copycat effect than research based on newspapers (Stack, 2003). Analyses of researches that observed the relationship between television reporting of suicide and suicide revealed that although the evidence for the TV’s influence on actual suicidal behavior is not as conspicuous as that of newspapers, there still is a cautious support for a causal relationship between television news and subsequent suicides. Dramatic effects of televised portrayals have led to

increased rates of suicide attempts using the same methods (Gould, Jamieson & Romer, 2003).

While suicide related films and movies seem to cause increased suicidal intention or suicide behaviors as well, Stack, Kral, & Borowski (2014) notes three limitations on previous studies about the impact of exposure to suicide movies on suicidality. Preceding studies are based on aggregate data subject to ecological fallacy, examine the exposure of only a single movie and lack controls for psychological and social factors. Controlling for religiosity, depression, burdensomeness, and demographics this study also found an increase of risk of attempted suicide by 47.6% for each additional movie exposure. A study in Austria that had examined the exposure to suicide in movies according to film preferences has also found that individual film genre preferences also reflect risk factors of suicide (Till et al, 2014).

While Internet is an increasingly common source for attaining suicidal information, many study results report the adverse effects of suicide information on the Internet (Daine et al, 2013; Kwon & Kim, 2012; Pirkis & Blood, 2010). Durkee, Hadlaczky, Westerlund, & Carli (2011) found a significant correlation between pathological Internet use and suicidality as pathological Internet users

had a three-to-four-fold higher risk of suicide intention compared to non-addicted individuals. A study that analyzed the personalities of each media channel in Korea reported that suicide related news on the Internet was more sensational compared to the print news in its explicit detail on suicide method, disclosure of suicide victim's profile, and sensationalism of articles headlines (Yu & Song, 2012).

A growing body of evidence suggests negative influences on suicide behavior of website that promote suicide. People searching the Internet for information about suicide methods are most likely to come across websites that encourage suicide, rather than sites offering help and support (Tom et al., 2011). While analyzing a total of 480 hits from the first 10 sites about suicide, Biddle and his colleagues (2008) found that just under a fifth of hits were for dedicated suicide sites while 43 contained personal or other accounts of suicide methods, and further 44 hits were sites or pages that provided information about suicide methods in a factual, partly joking, or completely joking fashion. Other than disclosure of suicide methods, Internet can contribute to suicidal behavior through exerting peer pressure, glamorizing suicide, and facilitating suicide pacts (Baume, Cantor, & Rolfe, 1997).

According to Tom et al (2011), there are two common frames shared on news reporting about suicide-related websites: (1) way in which the novelty of website involvement in the suicides provided the necessary ‘x-factor’ to make the story newsworthy, and (2) construction of websites as ‘enablers’ and ‘preventers’ of suicidal behavior. Internet is most commonly used for constructive reasons such as seeking support and coping strategies, but it may exert a negative influence, normalizing self-harm and potentially discouraging disclosure or professional help-seeking (Daine et al, 2013). Despite the disturbing effects of Internet on suicide, there still remains examples of promising suicide preventive interventions performed over the Internet (Durkee et al., 2011).

Mobile phones are also a type of new media that individuals may acquire suicide related information from. Unfortunately, significantly more adolescents at risk of mobile phone addiction showed suicidal intention and planned suicide compared to those who are not at risk of addiction (Potembska, 2012). The same study revealed that significantly more adolescents at risk of mobile phone addiction actually carried out self-harm as compared to those who are not at mobile phone addiction risk. Similarly, in Korea, mobile phone addiction is significantly correlated with depression symptoms, and depression symptoms were highly related to higher suicidal intention (Ahn et al., 2013). Although

numerous studies have attempted to measure the relationship between mobile phone uses and suicidal intention, most are conducted by examining the effects of mobile phone addiction rather than information acquisition using mobile phones as a tool. Considering the ubiquitous use of cell phones these days, studying the effects of suicided-related media via cell phone use seems reasonable. On the same note, due to the differing effects of types of media on suicide, Pirkis & Nordentoft (2011) notes that guidelines for media reporting have been developed for traditional media, and interventions for entertainment media and newer media need further scrutinization.

3. Level of Analysis

The previous researches have been conducted either as individual level or aggregate level analyses. Aggregate level studies compared one group regarding an outcome variable with that of another group usually differentiated by location or by time and were analyzed at the aggregate level (Pirkis & Blood, 2010). Nonetheless, to design an effective model for persuasion against potential suicides, further studies should be conducted to explore which factors directly affect an individual's psychological processing. Indeed, there have been individual level studies in which the outcome variable for individual was compared with that for other individuals. The outcome variable was usually a self-reported attitude

towards suicide or likelihood of suicidal behavior by presenting the sample with a fictitious or non- fictitious stimulant depicting a suicide story and measuring individuals' responses toward the storyline (Pirkis & Blood, 2010). For example, to examine whether the suicidal child's age or method of suicide has effect on people's impressions of the victim, Range, Bright, & Ginn (1985) conducted an experiment by asking individuals at the mall to respond to a questionnaire about a fictitious newspaper article. Similarly, a number of studies have examined the impact of a newspaper articles, movies, television shows by asking each individual their reactions to each story (Calhoun, Selby, Faulstich, 1982; McDonald & Range, 1990; Higgins & Range, 1996; Ginn, Range, & Jo Hailey, 1988; Kim et al, 2006). However, in previous studies with individual level analyses, they fail to examine the specific mechanism behind individuals' formation of suicidal intention. Lubans, Foster, and Biddle (2008) argue that it is crucial to examine the mediators of behavior to form strong conclusions regarding the most effective predictors for a behavior in an intervention. O'Connor & Armitage (2003) was aware of the importance of understanding the mechanisms behind self-harm and observed the effectiveness of TPB in the realm of parasuicide. The findings support the efficacy of TPB in parasuicide as TPB variables explained almost 50 percent of the variance related to intention to self-harm.

However, in a strict sense, the non- fatal aspect of parasuicide is clearly distinct from suicide, and the samples used in this particular study were limited to patients.

4. Research Model

The proposed mechanism by which an individual generates suicidal intention through media messages can be seen in Figure 2. This model is based on the assumption that suicide- related media content is related to the variables in the Theory of Planned Behavior which is a well-established theory that is frequently used in health communication. According to the theory, the effects of factors other than attitude, self-efficacy, social norms are mediated through these three primary factors (Ajzen, 1985;1991; Fishbein & Yzer, 2003).

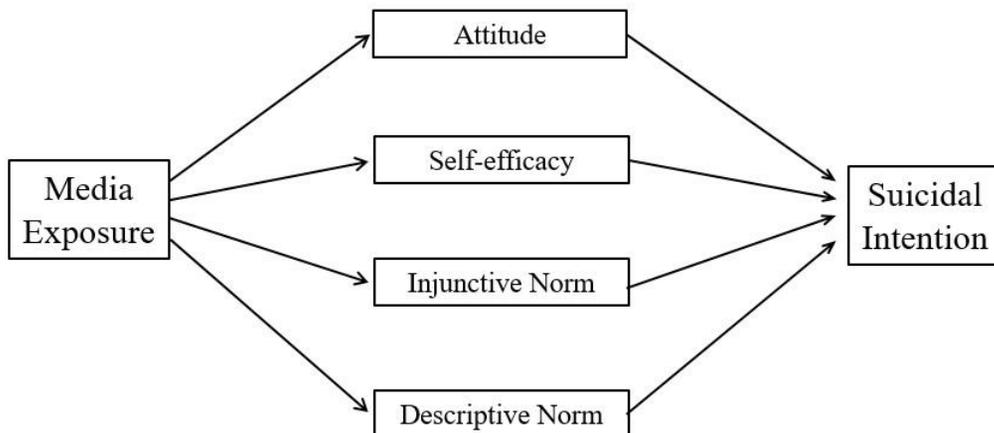


Figure 2: Research Model

5. Hypotheses & Research Question

We first examine the traditional passageways in which the Theory of Planned Behavior affects an individuals' intention towards a behavior. According to TPB, we would expect that messages that enhance suicide related attitude and self-efficacy will be positively associated with suicidal intention:

H1: Exposure to suicide-related media content will be positively associated with attitude toward committing a suicide

H2: Exposure to suicide-related media content will be positively associated with self-efficacy toward committing a suicide

In a meta-analysis, Godin and Kok (1996) found that social norm variables had revealed weak association with behavioral intention; however, O'Keefe (2015) argued that TPB's subjective norm represents only one aspect of social norms. In consistency with this statement, Cialdini, Reno, and Kalgren (1990) have agreed that norms do have a strong and regular impact on behavior, but the force and form of that impact can only be clearly established by making a conceptual distinction between descriptive and injunctive norms. Whereas descriptive norms inform behavior, injunctive norms enjoin it (Cialdini, 2011). So we suspect that the norms that simply register what most others and doing in a society and the norms that constitute the moral rules of the group will affect

individuals' suicidal intention through different routes. Simply put, media content related to the norms specify what is done and the norms that specify what ought to be done are two different predictors for suicidal intention, and thus we propose two following hypotheses:

H3: Exposure to suicide-related media content will be positively associated with injunctive social norm toward committing a suicide.

H4: Exposure to suicide-related media content will be positively associated with descriptive social norm toward committing a suicide.

Assuming that behavioral intention is the most proximal predictor for behavior, we focused on the suicidal intention as an outcome and posed the following hypotheses regarding the associations between TPB measures and suicidal intention:

H5: Attitude toward committing a suicide will be positively associated with suicidal intention

H6: Self-efficacy toward committing a suicide will be positively associated with suicidal intention

H7: Descriptive social norm toward committing a suicide will be positively associated with suicidal intention

H8: Injunctive social norm toward committing a suicide will be positively associated with suicidal intention

Lastly, a research question is constructed to examine the strongest determinant for suicidal intention. While TPB has been frequently used in various health issues, some studies report differing effects of the variables. While some studies found attitude to be the strongest predictor for a behavioral intention (Armitage & Conner, 2001), others argue that norms were most strongly related to the health behavior intention (Lee, Zhao, Pena-y-Lillo, 2016). In terms of smokers' intention to quit smoking (Norman, Conner, & Bell, 1999) and people's physical activity behaviors (Armitage, 2005), self-efficacy was shown to be the strongest predictor for behavioral intention. This study asks the following research question to identify which TPB component best predicts suicidal intention:

RQ1: Of attitude, self-efficacy, injunctive norms, and descriptive norms, which is most strongly associated with the intention to commit a suicide?

Study 1

We addressed the hypotheses H1 through H4 by conducting a content analysis of suicide news coverage in South Korea.

6. Methods

Data

Data included suicide-related news stories sampled from a total of 19 news outlets between August and September 2016. Search terms included a combination of the primary word “suicide” (“jasal” in Korean) with tertiary words including “attempt,” “cause,” etc. A content analysis of suicide-related news sample was conducted with respect to attitude, self-efficacy, descriptive norm, and injunctive norm. A total of 481 news stories were retrieved. The unit of analysis was the entire news article. A randomly selected set of 86 articles were double-coded to establish intercoder reliability, with Krippendorff’s alphas ranging from 0.81 to 1.00.

Coding procedure and measures

Since a sound theory can be the justification of a content analysis (Manganello & Fishbein, 2008) this study connected media messages to attitudes and behaviors over time by using the Theory of Planned Behavior for the content analysis design. Different aspects of the theory were utilized to develop the content analysis codebook (see Appendix 1). Specifically, coder looked for content in the

news that addressed attitude, self-efficacy, descriptive norm, and injunctive norms related to suicide intention and behavior. A set of 90 articles (18%) were double-coded to establish intercoder reliability, with Percent-Agreement ranging from .90 to 1. After the intercoder reliability was checked, the remainder of the articles were coded by a single coder.

Media Content

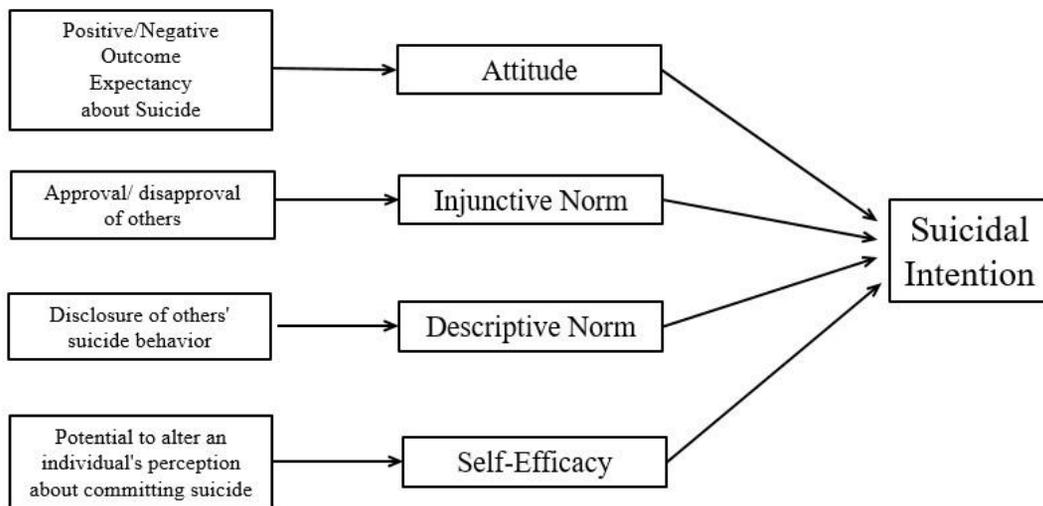


Figure 3: Detailed Model of Media Effects on Suicide-Related Cognition

1.1 Attitude

Attitude was operationally defined as any reference to one’s beliefs about positive and negative outcomes (Fishbein & Yzer, 2003) and was operationally defined as any reference to the positive or negative consequences of suicide. If the

media content mentioned a belief that committing a suicide would lead to a “good” outcome or the evaluation of the outcome highlights a positive aspect, the content was categorized as having a positive attitude. Examples included the use of a pleasing euphemism to refer to suicide or a rough depiction of suicide as a solution to a problem, a fulfilling rest, an escape route, only option or chance at peace, a pain reliever, etc. If the media content mentioned a belief that committing a suicide will lead to a “bad” outcome or the evaluation of the outcome highlights a negative outcome, it was identified as a negative attitude. Coding categories included: 0= *absence of positive attitude*, 1= *presence of positive attitude*; 0= *absence of negative attitude*, 1= *presence of negative attitude*.

1.2 Self-efficacy

Efficacy information was assessed by looking at whether news stories explicitly referenced any ways to reduce suicidal intention or behavior. If the content of the media had the potential to alter an individual’s perception that she or he can commit suicide under a variety of challenging circumstances, the content was categorized as a positive self-efficacy. For example, if the content of the media discussed the ease, feasibility, or the low cost of committing the suicide act, the content contains positive self-efficacy message. Conversely, if the content of the media discussed the challenges that a suicide attempter needs to go through, it

contained negative self-efficacy message. Moreover, if the media content discussed or informed the viewers or readers of a specific method of suicide (i.e. wrist cutting, drowning, suffocating, electrocution, jumping from height, hanging, poison, etc.), it altered the perception of how to commit a suicide and thus should be identified as a self-efficacy message. A self-efficacy content also discussed a specific place suicide took place (i.e. a bridge- Mapo Bridge, railway, etc.). News stories were coded to indicate: 0= *absence of self-efficacy*, 1= *presence of self-efficacy*.

Variable	Example
Positive Outcome	“It has been 3 months since the Supreme Court has ruled in favor of suicide insurance”/ “the daughter wishing her mom to soon pass away”
Negative Outcome	“In a religious perspective, other sins may be forgiven but suicide will not be”
Referent Approval	“I wished my son would die before he hurt any more people”
Referent Disapproval	“Dad please don’t die. Children left behind after parents’ suicide”/ “Children whose parents have committed suicide have started to voice their stories”
Others Approval	“She has become suicide-helper so that others would choose death before life in agony.”
Others Disapproval	“The public felt a tragic shock after Ha Il Sung committed suicide in his office.”
Descriptive Norm	“The number of suicide is almost twice the OECD average rate.”/ “For every 100,000 population, 28.7 commit suicide.”
Ease of Suicide	“Suicide was easy for the family as seven members in this family have committed suicide.”

Difficulty of Suicide	“He committed suicide by jumping off a bridge only to be immediate rescued by 911.”
Method	“He had hung himself”/ “IS committed a suicide bomb terror at a wedding in Turkey.”
Place	“Mapo Bridge is a famous suicide site.”
Source of Help	“After visiting the Wee center, his depression became much healed.”
Source Promoting Suicide	“In an Internet blog he had posted an invitation to rebirth through euthanasia.”

Figure 4: Suicide TRA/TPB Variable Coding Examples

1.3 Descriptive norm

Descriptive norm was assessed as what is typically done or what is normal in a culture or subculture and specifies what is done (Cialdini, 2011). It motivated others by informing individuals of what is likely to be effective and adaptive action in a situation. If the media content disclosed information about the suicidal intention or suicidal behaviors by others in the community, the content was identified as those enhancing or diminishing descriptive norm. These included specific statistics released by official sources or health related officials. News stories were coded to indicate: 0= *absence of descriptive norm*, 1= *presence of descriptive norm*.

1.4 Injunctive norm

Injunctive norm is what is typically approved/disapproved within a culture or subculture and specifies what ought to be done in the society (Cialdini, 2011). If the media depicts either approval or disapproval of others in the society, it should be categorized as altering the injunctive norm perceived by the audience. A media content may depict an individual as approving suicide with a comment relevant to “suicide was the victim’s only option” or “the suicide act was a right choice.” Conversely, it may depict the individual disapproving suicide with comments related to “the suicide shouldn’t have been an option” or “the suicide act was a mistake.” There may be a victim’s referent others portrayed in the media (i.e. a parent/guardian, sibling/cousin, friend/peer, teacher, partner, health provider, religious leader- a health provider can be a doctor, nurse, or someone related to the health profession). If the media content being analyzed is a television broadcast, other than the comments mentioned above, the referent others may show disapproval by showing themselves experiencing a hard time or emotionally disturbed. It is possible that one character in the media might portray both approval and disapproval. The injunctive norm was coded in two different ways as “approval/disapproval of referent others” and “approval/disapproval of others.” Referent others included victim’s parent/guardian, sibling/cousin, friends/peer, teacher, partner, personal health provider, personal religious leader. In sum, news stories were coded in four different items to specify: “approval of referent others” (0= *absence of approval of*

referent others, 1= presence of approval of referent others); “disapproval of referent others” (0= absence of disapproval of referent others, 1= presence of disapproval of referent others); “approval of others” (0= absence of approval of others, 1= presence of approval of others); “disapproval of others” (0= absence of disapproval of others, 1= presence of disapproval of others).

7. Results

We conducted descriptive statistics to examine how frequently each TPB variable was contained in suicide related news coverage in Korea from August to September 2016. See Table 1.

Variables	Frequency (%)
Positive Outcome	2.1
Negative Outcome	2.3
Referent Others’ Approval	0.8
Referent Others’ Disapproval	8.3
Unrelated Others’ Approval	0.4
Unrelated Others’	11.6

Disapproval	
Descriptive Norms	32.8
Ease of Suicide	0.2
Difficulty of Suicide	0.2
Suicide Method	21.4
Suicide Place	15
Source of Help against Suicide	3.3
Source that Promotes Suicide	0.4

Table 1. Frequency of TPB Variables in Suicide News Coverage

Near half of the news stories (40.5%) contained information that would either directly or indirectly affect readers' perception of suicidal self-efficacy (*ease, difficulty, method, place, source of help, source that promotes suicide*); specifically, about 36.59% of news stories seemed to contain information that positively affects suicidal self-efficacy and about 3.53% of news stories contained information that negatively affects suicidal self-efficacy.

Approximately one third of news articles (32.8%) contained information that influences readers' perception of descriptive norm regarding suicide. News stories usually depicted numbers or statistics that point at an increasing trend or high rate of

suicide in South Korea. Further, about a quarter of the sample (21.2%) included information that affects readers' injunctive social norm about suicide; in particular, 19.96% of articles conveyed disapproval of suicide while mere 1.25% portrayed negative injunctive norm regarding suicide (*Referent others' approval/ disapproval, general others' approval/ disapproval*). Only 4.3% of news stories seemed to contain information related to positive or negative outcome of committing a suicide; to specify, 2.1% of the sample depicted positive outcome and 2.3% depicted negative outcome.

Study 2

8. Method

In study 2, this study aimed to empirically test the relationship between the media contents and variables of the Theory of Planned Behavior by conducting a nationally representative survey between August 19, 2017 and October 5, 2017. Study participants consisted of 2,000 adults who were part of the nationwide panel of Macromillembrian Inc. (www.embrain.com) – a top web survey agency in Korea. See Table 2.

	N	Percent
Age		
18-29	404	20.2
30-44	753	37.7
45-59	843	42.2
60+	0	0
Gender		
Male	1053	52.7
Female	947	47.4
Educational Attainment		
<=High school graduate	343	17.2
>High school graduate	1657	82.9
Household Income (monthly)		
<		
>=		
Employment status		
Employed	1427	71.4
Unemployed	525	26.3
Political Ideology		
Liberal	424	21.2
Neutral	1183	59.2
Conservative	393	19.7
Relationship Status		
In a relationship	1225	61.3
Single	775	38.8

Table 2. Descriptive characteristics of the survey sample

Since a sound theory can be used as a justification to design research methods including both content analysis and survey (Manganello & Fishbein, 2008), the rationale for each survey question regarding TRA factors correspond with the explanation for content analysis. Variables measured through the survey include basic demographic information and questions regarding attitude, self-efficacy,

injunctive norm, descriptive norm, and intention regarding suicide. To design these measures, this study referred to the survey questions from Seeking and Scanning Behavior Survey SSB-G which included a widely-used survey for TPB measures. The study in which this survey was adopted was conducted by Annenberg School for Communication at the University of Pennsylvania between 2005 and 2007. The measurement tools were modified in the Korean context by using Korean information sources as can be seen in Appendix 2. By using the theory to guide both the content analysis and the survey, this study seeks to find a relationship between the four primary factors developed from TRA and the suicidal intention or the actual behavior.

2.1 Theory of Planned Behavior Variables

TPB variables were measured using a Likert Scale as was used in the SSB-G survey. First, the intention to commit a suicide was measured by asking the sample to indicate on a five-point scale (1= “very unlikely,” 2= “unlikely,” 3= “neutral,” 4= “likely,” 5 = “very likely”) the likelihood of committing a suicide in case of a huge challenge in life ($M= 2.06$, $SD = 1.11$). Self-efficacy variable will be measured by asking on a five-point scale (1= “very unsure,” 2= “unsure,” 3= “neutral,” 4= “sure,” 5= “very sure”) how sure the sample believes he or she can commit suicide when in want ($M= 2.05$, $SD = 1.14$). Descriptive social norm is measured on a five-point scale

(from 1= “none” or “very few” to 5= “all” or “almost all”) with the question “How many of the people who are most similar to you committed a suicide?” ($M= 2.48$, $SD= 1.17$). Injunctive social norm variable is also measured with a five-point scale (from 1= “definitely should not” to 5= “definitely should”) with the question “Do most people who are important to you think you should or should not commit a suicide?” ($M= 1.78$, $SD= 0.93$). Lastly, attitude is measured from scale 1 to 7 with 1 representing “extremely bad” or “extremely unpleasant” and 7 representing “extremely good” or “extremely pleasant” by asking the sample how they feel about committing a suicide.

2.2 Media Acquisition

A question about media information acquisition was taken from SSB-G survey by asking the sample if the frequency in which they have heard or come across information about suicide in the past month from each of the following sources on a four-point scale (1= “very often,” 2= “often,” 3= “almost never,” 4= “never”). “How often have you come across information about suicide in the past month through online news?” ($M= 2.06$, $SD= 0.86$); “How often have you come across information about suicide in the past month through social media?” ($M= 2.68$, $SD= 0.98$); “How often have you come across information about suicide in the past month through health or medical website?” ($M= 3.03$, $SD= 0.85$); “How often have

you come across information about suicide in the past month through television?” ($M= 1.88, SD= 0.83$); “How often have you come across information about suicide in the past month through newspaper or magazine?” ($M= 2.38, SD= 0.98$); “How often have you come across information about suicide in the past month through family, friend, or coworker?” ($M= 2.85, SD= 0.99$); “How often have you come across information about suicide in the past month through doctor or other medical expert?” ($M= 3.21, SD= 0.82$); How often have you come across information about suicide in the past month through other sources not mentioned above?” ($M= 3.22, SD= 0.83$)

2.3 Other Antecedent Variables

This survey measures two sets of control variables. The first is demographic variables which include gender, age, height, weight, occupational status, marital status, level of education, income, physical health condition, health awareness, and mental health condition. These questions also correspond to those that are utilized in SSB-G survey and then tailored to Korean sample. Demographic variables were as follow: age ($M = 40.89, SD = 11.15$), gender (47.4% females), formal education in years ($M = 15.26, SD = 2.25$), income (median monthly household income between 4,000,000~5,000,000 KRW), employment status (71.4% employed) and current relationship status (61.3% currently in a relationship). Current relationship status

was coded as either 0 (widowed; separated; divorced; never married) or 1 (in a relationship; married).

The second set of control variables was mental illness as psychological autopsy of suicides have displayed that as high as 90% of suicide attempters were revealed to have one or more mental illnesses at the time of killing themselves and also that these disorders raised the risk of suicide risks (Harris & Barraclough, 1997). This study refers to The Epidemiological Survey of Mental Disorders in Korea conducted by the Seoul National University College of Medicine (2011) and asks the sample whether they have experienced any of the following mental illnesses: nicotine-use disorder, alcohol-use disorder, affective disorder, anxiety disorder, somatization disorder, psychotic disorder, or eating disorder. The survey also plans to ask the sample whether they have received counselling via a visit, phone call, or Internet due to a mental illness in the past year. Respondents rated their mental health status by responding on a four-point scale (1= “never,” 2= “almost never,” 3= “often,” 4= “very often”). “I feel indifferent and uninterested” ($M= 2.41, SD= 0.77$); “I feel stagnant, depressed, or depressed” ($M= 2.40, SD= 0.81$); “I feel anxious, impatient, or sensitive” ($M= 2.40, SD = 0.82$); “I cannot stop or control my worries” ($M= 2.22, SD= 0.82$).

9. Results

Regarding suicidal attitude, the variance explained by sociodemographics, past individual and family/ friend suicide history, and mental health status was a little over 15% (Incremental $R^2=15.1\%$). The significant beta showed that media exposure was positively related to suicide attitude, after controlling for sociodemographics, past individual and family/ friend suicide attempt, and mental health status ($\beta= .069$, $p<.01$). The results supported the hypothesis H1.

Table 3. Hierarchical multiple regression predicting suicide attitude: Cross-sectional analysis

	Suicidal Attitude	
	Zero-order Correlation Coefficient	Final standardized regression coefficient
Block 1: control variables		
Age	-.105***	-.032
Gender (male=1, female=0)	.033	.005
Year of education	-.030	.025
Employment Status	-.026	.002
Relationship Status	-.139***	-.073**
Income	-.137***	-.067**
Political Ideology	.018	.005
Suicide Attempt	.181***	.110***
Family/ Friend Suicide History	.065**	.017

Lack of Interest	.276***	.094**
Depression	.319***	.110**
Nervousness	.276***	-.025
Worry	.318***	.178***
Incremental R^2 (%)		15.1
Block 2		
Media Exposure	.096***	.069**
Incremental R^2 (%)		.5
Total R^2 (%)		15.6
<i>N</i>		2000

* $p < .05$; ** $p < .01$; *** $p < .001$.

For suicide self-efficacy, the control variables explained approximately 16% of the variance (Incremental $R^2 = 15.6\%$). The significant beta showed that increase in media exposure was positively related to suicide self-efficacy, after controlling for sociodemographics, past individual and family/ friend suicide attempt, and mental health status ($\beta = .055$, $p < .05$). The result supported the hypothesis H2.

Table 4. Hierarchical multiple regression predicting suicide self-efficacy: Cross-sectional analysis

	Suicide Self-Efficacy	
	Zero-order Correlation Coefficient	Final standardized regression coefficient
Block 1: control variables		

Age	-.039***	.021
Gender (male=1, female=0)	.010	-.016
Year of education	-.015	.017
Employment Status	.010	.021
Relationship Status	-.095***	-.053
Income	-.098***	-.027
Political Ideology	-.019	-.021
Suicide Attempt	.235***	.160***
Family/ Friend Suicide History	.120***	.045
Lack of Interest	.271***	.078*
Depression	.329***	.128**
Nervousness	.297***	.004
Worry	.317***	.141***
Incremental R^2 (%)		15.6
Block 2		
Media Exposure	.085***	.055*
Incremental R^2 (%)		.3
Total R^2 (%)		15.9
N		1855

* $p < .05$; ** $p < .01$; *** $p < .001$.

The control variables explained about 9% of the variance for injunctive social norms regarding suicide (Incremental $R^2 = 8.6\%$). The significant beta showed that H3 was also supported as increase in media exposure led to increase in suicide

injunctive social norm, after controlling for sociodemographics, past individual and family/ friend suicide history, and mental health status ($\beta = .075, p < .01$).

Table 5. Hierarchical multiple regression predicting suicide injunctive norm: Cross-sectional analysis

	Suicide Injunctive Norm	
	Zero-order Correlation Coefficient	Final standardized regression coefficient
Block 1: control variables		
Age	-.065**	-.020
Gender (male=1, female=0)	-.035	-.047
Year of education	-.023	-.009
Employment Status	.020	.036
Relationship Status	-.082***	-.019
Income	-.126***	-.075**
Political Ideology	.001	-.007
Suicide Attempt	.143***	.083**
Family/ Friend Suicide History	.060*	.004
Lack of Interest	.194***	.052
Depression	.235***	.099*
Nervousness	.219***	-.001
Worry	.243***	.116**
Incremental R^2 (%)		8.6
Block 2		

Media Exposure	.107***	.075**
Incremental R^2 (%)		.5
Total R^2 (%)		9.1
N		1966

* $p < .05$; ** $p < .01$; *** $p < .001$.

In regards to descriptive social norms about suicide, the control variables explained 17% of the variance (Incremental $R^2 = 17.0\%$). The significant beta showed that media exposure was positively related to descriptive social norms about suicide, after controlling for sociodemographics, past individual and family/ friend suicide history, and mental health ($\beta = .070$, $p < .01$). The results again did support hypothesis H4.

Table 6. Hierarchical multiple regression predicting suicide descriptive norm: Cross-sectional analysis

	Suicide Descriptive Norm	
	Zero-order Correlation Coefficient	Final standardized regression coefficient
Block 1: control variables		
Age	-.134***	-.074*
Gender (male=1, female=0)	.008	-.031
Year of education	-.001	.029
Employment Status	-.048*	-.017
Relationship Status	-.180***	-.070*

Income	-.153***	-.085***
Political Ideology	-.042*	-.017
Suicide Attempt	.196***	.129***
Family/ Friend Suicide History	.118***	.062**
Lack of Interest	.248***	.037
Depression	.340***	.174***
Nervousness	.304***	.015
Worry	.313***	.102**
Incremental R^2 (%)		17.0
Block 2		
Media Exposure	.087***	.070**
Incremental R^2 (%)		.5
Total R^2 (%)		17.5
<i>N</i>		1947

* $p < .05$; ** $p < .01$; *** $p < .001$.

The cross-sectional test of the hypotheses (H5, H6, H7, H8) are presented in Table 2, which presents hierarchical multiple regression predicting suicidal intention. The first model presents the correlations of each independent variable with the suicidal intention measure, and the second presents the final model that includes all variables.

Table 7. Hierarchical multiple regression predicting suicidal intention: Cross-sectional analysis

	Suicidal Intention	
	Zero-order Correlation Coefficient	Final standardized regression coefficient
Block 1: control variables		
Age	.026	.047*
Gender (male=1, female=0)	.062**	.045*
Year of education	-.006	.034
Employment Status	-.010	-.002
Relationship Status	-.087***	.007
Income	-.125***	-.020
Political Ideology	-.006	.007
Suicide Attempt	.266***	.079***
Family/ Friend Suicide History	.110***	-.012
Lack of Interest	.316***	-.006
Depression	.395***	.027
Nervousness	.369***	.048
Worry	.400***	.100***
Incremental R^2 (%)		23.2
Block 2		
Attitude	.583***	.219***
Self-Efficacy	.655***	.376***
Suicide Injunctive Norm	.488***	.112***
Suicide Descriptive Norm	.468***	.104***

Incremental R^2 (%)	33.0
Total R^2 (%)	56.2
N	1940

* $p < .05$; ** $p < .01$; *** $p < .001$.

The confounders (i.e., sociodemographic, past individual and friend/ family suicide history, and mental health status) accounted for a relatively small portion of the variance in suicide ideation (incremental $R_2 = 33.0\%$). After controlling other variables, the significant final beta of all of the TPB variables showed that attitude, self-efficacy, suicide injunctive norm, and suicide descriptive norm was each positively related to suicide intention ($\beta = .219$; $\beta = .376$; $\beta = .112$; $\beta = .104$, respectively at $p < .001$). The results supported all the hypotheses H5, H6, H7, and H8.

10. Discussion

The content analysis results revealed that nearly half of the news stories (40.5%) contained information that would either directly or indirectly affect readers' perception of suicidal self-efficacy; specifically, about 36.59% of news stories seemed to contain information that positively affects suicidal self-efficacy and about 3.53% of news stories contained information that negatively affects suicidal self-efficacy. Approximately one third of news articles (32.8%) contained information

that influences readers' perception of descriptive norm regarding suicide. News stories usually depicted numbers or statistics that point at an increasing trend or high rate of suicide in South Korea.

Further, about a quarter of the sample (21.2%) included information that affects readers' injunctive social norm about suicide. Only 4.3% of news stories seemed to contain information related to positive or negative outcome of committing a suicide.

The survey results showed that the media exposure is positively related to all four TPB variables: attitude, self-efficacy, injunctive social norms, and descriptive social norms. Media exposure was positively related to suicide attitude ($\beta = .069$, $p < .01$), suicide self-efficacy ($\beta = .055$, $p < .05$), injunctive social norms ($\beta = .075$, $p < .01$), and descriptive social norms ($\beta = .070$, $p < .01$), after controlling for sociodemographic, individual and family/ friend suicide history, and mental health status. The results supported all four hypotheses regarding media exposure (H1, H2, H3, H4) were supported.

The cross-sectional test of the hypotheses (H5, H6, H7, H8) is examined through hierarchical multiple regression predicting suicidal intention. After controlling other variables, the significant final beta of all of the TPB variables showed that attitude, self-efficacy, suicide injunctive norm, and suicide descriptive norm was each positively related to suicide intention ($\beta = .219$; $\beta = .376$; $\beta = .112$;

$\beta = .104$, respectively at $p < .001$). The results supported all the hypotheses H5, H6, H7, and H8.

Although media guidelines caution against depicting information related to self-efficacy and descriptive norm toward suicide, there were considerably high frequency of related information. Despite the fact that self-efficacy most heavily influences suicide intention, the results of content analysis show that almost half of the news stories in the sample contained information that affects self-efficacy toward suicide. Although the effect size is very small, if an individual is exposed to suicide information through the media, the fact that there is a significant positive relationship between media exposure and suicide intention seems to be worrisome. This study should be utilized as a suggestion to reporters to be cautious in handling suicidal news and related self-efficacy information.

Limitation

This study has several limitations. First, to examine the relationship between the media and suicidal cognitions, more than one channel must be considered as people are exposed to a plethora of information from various modes of communication. However in this study, I only analyzed media exposure through newspaper, thus limiting the scope of our study. At this stage, this study is only preliminary, and further studies should examine interpersonal relationship through

direct observational survey and dialogues regarding suicide, people's opinions on SNS through computation coding, and more other media channels. Second, we use cross sectional survey to analyze our results, and this hinders our judgment of causality in the study. I suggest that future studies examine the relationship in question through a longitudinal panel survey for causal relationship. Furthermore, this study examines the most proximal predictor of suicide behavior through suicidal intention. Idealistically, future studies should look at behavioral data through death statistics provided by official statistical office and examine people's behaviors over a longer term for comprehensive results.

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Appendix

APPENDIX A – CONTENT ANALYSIS CODEBOOK

1.1 Positive outcomes

- If the media content mentions a belief that committing a suicide will lead to a “good” outcome or the evaluation of the outcome highlights a positive aspect from the perspective of the victim, please check this option.
- The positive consequences of the suicide act from the perspective of the character that is represented in the article after examining it in its entirety should be coded here. Only outcomes that are clearly manifest should be coded.
- Examples include the use of a pleasing euphemism to refer to suicide or a rough depiction of suicide as:
 - A solution to a problem
 - A fulfilling rest
 - An escape route
 - Only option left/ only chance at peace
 - A pain reliever
 - Etc.

1.2 Negative outcomes

- If the media content mentions a belief that committing a suicide will lead to a “bad” outcome or the evaluation of the outcome highlights a negative outcome from the perspective of the victim, please check this option.
- The negative consequences of the suicide act from the perspective of the character that is represented in the article after examining it in its entirety should be coded here. Only clearly manifest negative outcomes should be coded here.
- Examples:
 - After an unsuccessful attempt at suicide, the character was sent to and locked in a rehabilitation center or prison
 - Religious belief including committing suicide is a sinful act, and will be sent to hell after death.
 - Disadvantage in funeral/ burial process
- Please note that any disadvantages experienced by family members, friends, and others should be categorized as social norms, rather than an individual’s negative outcome.

Reactions of referent others

- If the media portrays the reaction of victim's family or acquaintances, check this option.
- First you need to determine the role of the character(s) who were aware of the suicide incident (other than the participants themselves). Only if the person knows the victim should you include them in this category.
 - For example, a friend would be a 'referent other' for the victim, but a friend's friend who the victim has only come across once or twice would not be a 'referent other' because- although the victim knows the person, he does might not have been in the victim's social circle.
- In addition, if there are multiple people mentioned in the media content who fit the same role (example, two different friends of the characters), then the opinions expressed by both the friends should be considered.
- It is possible that one character might portray both approval and disapproval.
- Examples of referent others include:
 - Parent/ guardian, sibling/ cousin, friends/ peer, teacher, partner, health provider, religious leader
 - A health provider could be a doctor, nurse, or someone related to the health profession.
 - When considering health provider or religious leader as a referent other, he or she should be directly related to the victim as a personal doctor, pastor of the victim's church, etc.

2.1 Approval of referent others

- If the media content depicts the referent others as approving of suicide, please check this option.
- Examples include any mention close to:
 - Suicide was the victim's only option
 - The suicide act as a right choice
 - Etc.
- If the media content describes a situation in which a family or a close acquaintance that the victim had previously indicated receiving insurance benefit, please check this option.

2.2 Disapproval of referent others

- If the media content depicts the referent others as disapproving of suicide,

please check this option.

-
- Examples include any mention close to:
 - The suicide shouldn't have been an option
 - The suicide act as a mistake
 - Etc.
- Any visual depiction of the referent others experiencing a hard time or emotionally disturbed should be checked.
- If the media content describes a situation in which a family or a close acquaintance that the victim had previously indicated not being able to receive insurance benefit, please check this option.

Others' knowledge (unrelated other)

- If some other person or group of people **other than referent others checked above** who talk about a suicide act appear on the media content, check here.
- It is possible that a person can depict both approval and disapproval regarding suicide.

3.1 Approval of others

- If the media content depicts the individual as approving of suicide, please check this option.
- If the media content contains an adjective with a positive tone when describing suicide, please check this option.
- Examples include any mention close to:
 - Suicide was the victim's only option
 - The suicide act as a right choice
 - Etc.

3.2 Disapproval of others.

- If the media content depicts the individual as disapproving of suicide, please check this option.
- If the media content contains an adjective with a negative tone when describing suicide, please check this option.
- Examples include any mention close to:
 - The suicide shouldn't have been an option
 - The suicide act as a mistake
 - Etc.

4.1 Descriptive norms

- If the media content contains any information about the suicide related behaviors of others in a certain society, please check this option.
- If the news content implies that a number of people are committing suicide, please check this option. Any statistics regarding prevalence or commonality of suicide should be checked.
- Any mention denoting the spread of suicide should be noted. For example, suicide contagion is an example of a phenomenon containing descriptive norm.
- If the media content portrays a suicide of a celebrity, please check this option. Celebrity includes any individual who has gained fame and public attention. If the content describes a suicide of someone without a certain amount of stardom to be able to discern the individual as a “celebrity”, do not check this option.
 - In this context, if the content describes the suicide the plot of a pop culture (i.e., play, movie, novel, etc.) in which a character commits a suicide, also check this option.
- The media content’s simple explanation of the cause of a certain individual’s suicide does not need to be checked for this option. Only check this option if that specified individual is a celebrity as mentioned above.

Self-Efficacy

- The following section considers whether the media content has the potential to alter an individual’s perception that she or he can commit suicide under a variety of challenging circumstances.

5.1 Ease of suicide

- If the content of the media discusses the ease, feasibility, or the low cost of committing the suicide act, check this option.

5.2 Difficulty of suicide

- If the content of the media discusses the challenges that a suicide attempter needs to go through, check this option.
- If there is a mention where a character fails in committing suicide, please check this option.

5.3 Mention of specific methods

- If the media content discusses or informs the viewers or readers of a specific method of suicide, check this option.
- Examples include any verbal or visual depictions of:
 - Wrist cutting
 - Drowning
 - Suffocating
 - Electrocution
 - Jumping from height
 - Firearms
 - Hanging
 - Poison
 - Etc.

5.4 Mention of specific place of suicide

- If the media content discusses or informs the viewers or readers of a specific place for committing suicide, check this option.
- Examples include any verbal or visual depiction of:
 - A bridge (e.g. Mapo Bridge)
 - Suicide site
 - Railway
 - Etc.

5.5 Sources of help against suicide

- If the media content informs the readers or viewers a general or specific method of help that will inhibit suicide behavior, check this option.
- Examples include any reference to
 - Telephone hotline
 - Official websites for suicide prevention
 - Counseling center
 - Etc.

5.6 Sources that promote suicide

- If the media content exposes the readers or viewers or simply refers to a general or specific route that will encourage or promote suicide act, check this option.
- Examples include any reference to
 - Pro-suicide websites
 - Suicide clubs
 - Etc.

APPENDIX B – SURVEY QUESTIONS

1. 귀하의 성별은 무엇입니까?

남자 1
 여자 2

2. 귀하의 연령은 어떻게 되십니까?

만 _____ 세

3. 귀하의 직업은 무엇입니까?

자영업 1
 사무직/ 기술직 2
 경영/ 관리직 3
 전문직 4
 기능/생산직 5
 판매/ 서비스직 6
 농/ 임/ 축/ 어업 7
 주부 8
 학생 9
 무직 10
 기타 () 11

4. 혼인 상태는 어떠합니까?

미혼 1
 배우자 있음 2
 동거 3
 사별 4
 이혼 5
 별거 6

5. 정규교육은 어디까지 받았습니까?

교육부장관이 인정하는 학력을 정규교육으로 봅니다.
 검정고시에 합격한 경우는 정규교육을 받은 것으로 인정합니다.
 초등학교 취학 이전의 아동은 “받지 않았음 (미취학 포함)” 에
 표시합니다.

받지 않았음(미취학 포함)	1
초등학교	2
중학교	3
고등학교	4
대학교 (2,3 년제)	5
대학교 (4 년제 이상).....	6
대학원 석사 과정	7
대학원 박사 과정	8

6. 귀하 가정의 월 평균 가구소득은 어떻게 되십니까? (가족
 모두의 월급, 보너스, 사업소득, 임대소득, 이자 등을 모두
 포함해서 말씀해 주시기 바랍니다.)

100 만원 미만	1
100~200 만원 미만	2
200~300 만원 미만	3
300~400 만원 미만	4
400~500 만원 미만	5
500~600 만원 미만	6
600~700 만원 미만	7
700~800 만원 미만	8
800~900 만원 미만	9
900~1000 만원 미만.....	10
1000 만원 이상	11

7. 귀하의 건강상태는 어떻습니까?

- 매우 건강하다.....1
- 건강하다2
- 보통이다3
- 건강하지 않다4
- 매우 건강하지 않다.....5

8. 건강에 관한 다음의 문장을 읽고 이에 얼마나 동의하는지 응답해주세요.

매우 동의한다 1	2	3	4	매우 동의하지 않는다. 5
1	2	3	4	5

1. 나는 나의 건강에 대해 자주 생각한다.
2. 나는 건강을 유지하기 위해 노력한다.
3. 나의 건강은 나에게 중요하다.

9. 지난 2 주 동안, 얼마나 자주 다음과 같이 느꼈습니까?

거의 매일	자주 느꼈다	가끔 느꼈다	전혀 느끼지 않았다
1	2	3	4

1. 매사에 무관심하거나 흥미를 느끼지 못했다
2. 침체되었거나 우울하거나 혹은 좌절감을 느꼈다
3. 불안하거나 초조하거나 혹은 예민해졌다.
4. 걱정하는 것을 멈추거나 조절할 수 없었다.

10. 앞으로 2개월 안에 당신이 자살을 택할 가능성이 어느 정도라고
생각합니까?

- 매우 낮다.....1
- 낮다2
- 보통이다3
- 높다4
- 매우 높다.....5

11. 앞으로 2개월 안에 자살하고 싶다는 생각이 들었다고
가정했을 때, 당신이 자살을 실행에 옮길 자신이 있습니까?

- 전혀 그렇지 않다1
- 그렇지 않다2
- 보통이다3
- 그렇다.....4
- 매우 그렇다.....5

12. 당신이 느끼기에, 당신과 (성별, 성격, 사회적 지위, 경제적
지위 등이) 비슷한 사람들이 어려운 상황을 해결하기 위한
수단으로써 자살을 고려하고 있다고 생각합니까?

- 전혀 그렇지 않다1
- 그렇지 않다2
- 보통이다3
- 그렇다4
- 매우 그렇다.....5

13. 당신이 느끼기에, 당신에게 중요한 사람들은 당신이 어려운 일을 겪더라도 자살하면 안 된다고 생각하는 것 같습니까?

- 매우 그렇다1
- 그렇다2
- 보통이다3
- 그렇지 않다4
- 전혀 그렇지 않다5

14. 정말 어려운 상황 속에서 자살을 선택하는 것은

매우 나쁘다	2	3	4	5	6	매우 좋다
1	2	3	4	5	6	7

15. 정말 어려운 상황 속에서 자살을 선택하는 것은

매우 불쾌하다	2	3	4	5	6	매우 유쾌하다
1	2	3	4	5	6	7

16. 자살해야겠다고 진지하게 생각한 적이 한번이라도 있습니까?

- 예.....1
- 아니오2

17. 자살하려고 구체적으로 계획을 세운 적이 있습니까?

- 예.....1
- 아니오2

18. 자살을 시도한 적이 있습니까?

예..1
아니오2

19. 당신의 가족 중 자살을 한 사람이 있습니까?

예..1
아니오2

20. 당신의 친구들 중 자살을 한 사람이 있습니까?

예..1
아니오2

21. 최근 1년 동안 정신적인 문제 때문에 방문, 전화, 인터넷 등을 통해 상담을 받아본 적이 있습니까?

예..1
아니오2

22. 당신은 평생 한 번 이상 다음과 같은 정신장애를 경험한 적이 있습니까?

1. 니코틴 사용장애
2. 알코올 사용장애
3. 기분장애
4. 불안장애
5. 신체화장애
6. 정신병적 장애
7. 식이 장애

23. 지난 한달 동안 아래의 정보원을 통해 자살에 관한 보도나 정보를 얼마나 자주 접했습니까?

자주 접했다	조금 접했다	거의 접하지 못했다	전혀 접하지 못했다
1	2	3	4

1. 온라인 뉴스 (예: www.chosun.com, www.naver.com)
2. 소셜미디어 (예: Facebook, YouTube, Twitter, 혹은 블로그)
3. 건강 또는 의료 전문 웹사이트 (예: 보건복지부 웹사이트)
4. 텔레비전
5. 신문 또는 잡지
6. 가족, 친구, 또는 직장 동료
7. 의사 또는 다른 의료 전문가
8. 기타.

요약 (국문초록)

한국 사람들이 뉴스 미디어를 통해 자살 관련 정보를 습득하다 보면 자살에 대한 인식이 바뀌게 되는데 이 연구를 통해 언론보도 속 자살 관련 정보가 자살에 관한 태도, 자기효능감, 서술적 규범, 명령적 규범 및 자살의도에 미치는 영향을 내용분석 및 대규모 사회조사를 통해 검증하고자 한다.

연구 1에서는 2016년 8월과 9월 사이 총 19개의 뉴스 아울렛에서 보도된 자살관련 뉴스의 내용이 진행되었다. 내용분석은 태도, 자기효능감, 서술적 규범 및 명령적 규범을 기준으로 이루어 졌으며 총 481개의 기사를 분석하였다. 절반 정도의 보도내용이 (40.5%) 수용자의 자살 관련 자기효능감에 간접적 혹은 직접적 영향을 미치는 정보를 포함하였으며 이 중 36.59% 정도가 자살 관련 자기효능감을 향상시키는 것으로 밝혀졌다.

또한, 33%에 달하는 뉴스 내용이 수용자의 자살 관련 서술적 규범에 영향을 미치는 것으로 나타났다. 자살에 대한 신문 기사들은 보통 국내에서의 높은 자살 관련 통계를 보도하였다. 또한 20% 이상의 신문 보도가 수용자의 자살관련 명령적 규범에 영향을 미치는 내용을 포함하였다. 이 중 19.96%의 기사들이 자살을 반대하는 내용이었으며 태도에 관한 자살 내용은 4% 정도인 것으로 밝혀졌다.

연구 2에서는 뉴스 미디어의 내용과 계획된 행동이론의 변인 간의 관계를 전국민 설문조사를 통하여 살펴보았다. 설문조사는 2017년 8월 19일에서 2017년 10월 5일 사이 실행되었으며 참여자는 총 2,000명의 성인을 대상으로 진행되었다.

The survey results showed that the media exposure is positively related to all four TPB variables: attitude, self-efficacy, injunctive social norms, and descriptive social norms. Media exposure was positively related to suicide attitude, suicide self-efficacy injunctive social norms, and descriptive social norms, after controlling for sociodemographic, individual and family/ friend suicide history, and mental health status.

The cross-sectional test was examined through hierarchical multiple regression predicting suicidal intention. After controlling other variables, the significant final beta of all of the TPB variables showed that attitude, self-efficacy, suicide injunctive norm, and suicide descriptive norm was each positively related to suicide intention. The results supported all the hypotheses H5, H6, H7, and H8.

Although media guidelines caution against depicting information related to self-efficacy and descriptive norm toward suicide, there were considerably high frequency of related

information. Despite the fact that self-efficacy most heavily influences suicide intention, the results of content analysis show that almost half of the news stories in the sample contained information that affects self-efficacy toward suicide. Although the effect size is very small, if an individual is exposed to suicide information through the media, the fact that there is a significant positive relationship between media exposure and suicide intention seems to be worrisome. This study should be utilized as a suggestion to reporters to be cautious in handling suicidal news and related self-efficacy information.

This study has several limitations. First, to examine the relationship between the media and suicidal cognitions, more than one channel must be considered as people are exposed to a plethora of information from various modes of communication. However in this study, I only analyzed media exposure through newspaper, thus limiting the scope of our study. Second, we use cross sectional survey to analyze our results, and this hinders our judgment of causality in the study. Furthermore, this study examines the most proximal predictor of suicide behavior through suicidal intention.

Keyword : Suicide, Theory of Planned Behavior, Media, Suicidal Cognition, Suicidal Ideation, Attitude, Self-efficacy, Injunctive Norm, Descriptive Norm

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