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심리학석사학위논문

Perceived Parental Role and Emotion  
Regulation in College Students with  
Internet Gaming and SNS Addictive  
Tendencies

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Tendencies

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# **Abstract**

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Behavioral Addiction is a recently emerging research topic, particularly due to the explosive use of the internet, which is no longer limited to a personal computer. The mobility of internet use has resulted in a rampant rise in internet gaming and SNS addictions, especially with the high and easy accessibility in South Korea. The purpose of this study aims to explore variables and characteristics that may affect undergraduate students' internet gaming and SNS addictive tendencies. This study explored the retrospective and current parental role and emotion regulation of internet gaming and SNS addictive college students.

In study 1, perceived parental behavior (further categorized into maternal care and overprotection, paternal care and overprotection) and emotion regulation difficulties in students with internet gaming and SNS addictive tendencies were examined. Male students heavily concentrated the internet gaming addictive condition. Students with internet gaming addictive tendencies reported experiencing less retrospective parental care, more parental overprotection while reporting less current parental attachment. On the other hand, students with SNS addictive tendencies reported a parallel pattern in terms of retrospective maternal role and current maternal attachment. However, there was an opposite directionality in retrospective paternal care.

In study 2, specific emotion regulation strategies used by those with internet gaming and SNS addictive tendencies were explored. Also, an experimental study using the emotional go/no-go task was conducted to identify emotion regulation difficulties among students with addictive tendencies. The SNS addictive group showed greater support-seeking emotion regulation strategy, whereas the internet gaming addictive group did not show a tendency toward any emotion regulation strategy. The behavioral go/no-go task failed to display emotion regulation difficulties for the internet gaming addictive group. On the other hand, the SNS addictive group showed difficulties for both the classic and emotional go/no-go task, demonstrating an overall deficit in behavioral inhibition in comparison to the control condition.

The findings of the present study suggest significant gender differences in internet gaming and SNS addictive tendencies, and the differential roles of the mother and father in internet gaming and SNS addictive behavior. Greater emotion regulation difficulties were found in the SNS addictive condition. Finally, the implications and limitations of this study, and suggestions for future studies were discussed.

**Keywords :** Behavioral addiction, Internet gaming, SNS, retrospective parental relationship, emotion regulation

***Student Number :*** 2011-23142

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# Introduction

The addiction problem in South Korea is increasingly heightening while the harmful consequences are not only affecting the individual, but also families and society as a whole. “Addiction” consists of repeated behavior that is difficult to control, in which an individual is engaged so heavily that it significantly disrupts one’s balance in lifestyle (Kim, 2002). Research thus far has been mainly focused on substance-related addiction. However, the inclusion of gambling disorder under “Substance-Related and Addictive Disorders” in the DSM-5, has reflected the evidence in which behavioral addictions can also activate similar reward systems to that of substance-related disorders and result in parallel behavioral manifestations and difficulties (APA, 2013). Although excessive and/or addictive behavioral patterns have been of recent interest, research in clarifying the behavioral syndromes is still lacking (APA, 2013). Nonetheless, there has been a rising attention in dividing addiction as substance-related addiction, and behavioral addiction. Similar to substance-related addiction, behavioral addiction must have the characteristics of salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse (Pelling & White, 2009).

Recently, due to the massive development of the IT industry, negative side effects like internet and pornography addiction, internet gaming addiction, cell-phone addiction, and other behavioral addictions have been receiving attention and been noted for their severity (Woo, Park, Jung, & Chang, 2010). These concerns have been especially centered in Asian countries, namely China and South Korea (APA, 2013). Internet use has increased 3.7% in 2013, resulting in 82.1% of the South Korean population being active internet users (Korean Internet & Security



Agency, 2013). Furthermore, 99.9% of those in their 20's have reported being active internet users (Korean Internet & Security Agency, 2013). According to the 2011 South Korean Ministry of Public Administration and Security, 7.7% of internet users are addicted, of which college students take up the largest 11% of the adult addiction rate (Ministry of Public Administration and Security, 2011). The Korean Internet and Security Agency (Korea Internet & Security Agency, 2011) reported that 7 out of 10 smart phone users state that they repeatedly check their smart-phones for no particular reason, and 34.2% of the users state that they "...have felt anxious when without [their] smart-phone." People that show tendencies of behavioral addiction seem to have a low tolerance for anxiety and instead of coping with internal discomfort through productive means, they end up obsessing over overt mediums which facilitate behavioral addiction (Chang, Park, Jung, & Woo, 2011).

Of the many mediums in which behavioral addiction is experienced, much research has been directed toward internet and cell-phone addiction. However, recent research has focused on addiction not toward a specific medium, but rather toward specific activities through various mediums. This is because the current rampant use of smart phones allows an overlap of activities people can engage in both on the phone and on the internet. According to Young (1999), there are five different types of internet addiction: computer addiction (i.e., computer game addiction), information overload (i.e., web surfing addiction), net compulsions (i.e., internet gambling or internet shopping addiction), cybersexual addiction (i.e., internet pornography or internet sex addiction), and cyber-relationship addiction (i.e., internet relationship, or SNS addiction) (Kuss & Griffiths, 2011). With the overlap of internet and cell-phone addiction, this research aims to focus on internet

gaming addiction and cyber-relationship addiction (i.e., SNS addiction). According to the Korean Internet & Security Agency (2013), 86.4% of internet users participate in online leisure activities, which includes internet gaming, and 85.5% of internet users engage in interpersonal communication, which can be framed as “SNS.” These statistics were particularly high, 97.6%, 99.6% respectively, for South Koreans in their 20’s. There is evidently a high percentage of young South Korean internet users who are particularly involved in internet gaming and SNS. With limited exploration of the pathways toward internet gaming and SNS addictions, this research aims to tease through distinctive characteristics of such addictive tendencies, which provide significant implications and directions for treatment.

### **Behavioral Addiction**

**Internet Gaming.** Internet gaming disorder has been included in section III of the DSM-5 (APA, 2013), suggesting its need for further study but acknowledging the considerable literature that has stemmed from this behavioral addiction, particularly in Asian countries. The DSM-5 defines Internet gaming disorder as a pattern of excessive and prolonged internet gaming that leads to cognitive and behavioral problems. Such consequences include progressive loss of control, tolerance, and withdrawal symptoms (APA, 2013). Those that categorize under internet gaming disorder neglect their personal, family, or vocational needs and pursuits and spiral into increasing number of hours devoted to the game and gaming activities (APA, 2013).

One of the greatest risk factors of internet gaming addiction is computer

or internet availability. With the internet being highly accessible in South Korea, it has offered a limitless virtual world as a playground to many. According to the Korea Creative Content Agency (2013), the number one leisure activity for South Koreans has been found to be internet gaming at 28.3%. The availability and access of internet games have not only been bound to the physical computer, but to any owner of a smart-phone. A variety of games are available: Casual Browser Games (CBGs), Massively Multiplayer Internet Role-Playing Games (MMORPGs), Simulation Games (SGs) and much more (Kuss & Griffiths, 2012). This variety allows internet games to be highly appealing to a wide range of people with different characteristics and motivations in playing these games.

South Korean college students addicted to internet gaming have been reported to utilize maladaptive communication styles in comparison to their non-addicted counterparts. Students with a higher probability of addiction display a lack of confidence in dealing and coping with problems and stressors. These students view problems as threats and in turn resort to avoidant behaviors instead of actively solving such problems (Lee, 2009). These problems or discomfort may be manifested through the family, which, when experienced, has the likelihood to turn students to express their loneliness, frustrations, and other negative emotions into the internet world via internet games (Young, 1998). Furthermore, students addicted to internet gaming have demonstrated marked difficulties in decision making skills mainly demonstrated by the Iowa Gambling Task (IGT) and Game of Dice Task (GDT) (Kim, Kim, & Chang, 2013; Pawlikowski & Brand, 2011). Through such tasks, they have suggested that internet gaming addicts carry cognitive characteristics of myopia for the future (Kim, Kim, & Chang, 2013; Pawlikowski & Brand, 2011).

Characteristics of those with internet gaming addictive tendencies have been researched and consequently accompanied with a variety of personality traits. Kuss and Griffith, upon their meta-analytic study (2011), have suggested introversion, neuroticism, and impulsivity to be key characteristics of those with internet gaming addictive tendencies. Impulsivity, in particular, has been found to be a key personality trait for Korean students with internet gaming addictive tendencies (Park, Shin, & Lee, 2012). Furthermore within the Korean population, environmental factors that have been the most influential in students' internet gaming use have been found to be parent-child relations and communication (Park, et al., 2012). With such key characteristics and vulnerability factors, motivations for playing and consequently heavily engaging in internet gaming is researched to be related to dysfunctional coping, as well as socialization and personal satisfaction (Kuss & Griffiths, 2011). The hybrid of such key characteristics and personality traits with motivations for playing immersed in an environment of high accessibility and availability of the internet may reveal greater and clearer understanding of internet gaming use and its addictive tendencies in the Korean college population.

**SNS.** Similarly, as the rampant internet accessibility has increased internet game use, so also has proliferated social networking sites (SNSs) among young people in particular. The 2013 Korea Internet & Security Agency has reported 87.5% of South Koreans in their 20's using SNS. SNSs are virtual spaces and communities, in which an individual can develop his or her own public profile, interact with friends, meet new people, and network. These profile-based services are of rampant use in South Korea, as 94.4% of SNS users have reported having such profiles, whether through facebook, me2day, twitter, and more (Korea Internet

& Security Agency, 2013). With the exponential use of SNSs, those with difficulties in expressing themselves have found a channel to portray, express, and build themselves through various manners within a bounded system. Moreover, the explosion of SNSs has changed the paradigm of interpersonal relationships and how people communicate and connect with one another. Immediate access, response, and interaction to a wide array of SNS avenues have shaped the dynamic lifestyle of countless users.

Research thus far has shown that SNS use may increase adolescents' self-esteem and well-being when having received positive feedback, but may decrease self-esteem when having received negative feedback (Pelling & White, 2009), which taps into the addiction characteristic of mood modification. Similar to Internet gaming disorder and behavioral addictions in general, the excessive use of SNS has the toxicity to negatively affect one's vocation, family, personal growth, relationships, and overall health. Symptoms of salience, tolerance, withdrawal, conflict (i.e. interpersonal and intrapsychic problems due to SNS usage), and relapse have all been noted by those addicted to SNSs (Kuss & Griffiths, 2011).

The number of empirical studies conducted on SNS addictive tendencies, and in particular personality characteristics that are associated with such addictive tendencies is limited. Several studies have found higher usage of SNS to be associated with narcissistic, neurotic, and both extravert and introvert personality characteristics (Kuss & Griffiths, 2011). Extroverts and introverts tend to gravitate toward SNS for differing reasons, mainly being social enhancement and social compensation, respectively (Kuss & Griffiths, 2011). There is a wide variety of motivations in using SNSs. Kim et al. (2011) found that Korean college students

were motivated to use SNS to seek social support from already established relationships, whereas American college students were motivated for entertainment. Korean college students who reported overusing SNS were found to experience lower academic achievement and work effectiveness, a loss of interest in other activities, a decrease in familial conversations, a deterioration in eyesight and sleep deficits (Yu, 2011). Greater SNS use was also correlated with lower self-esteem, especially among female college students (Pi, 2012).

**Internet Gaming & SNS.** Those vulnerable to internet gaming and SNS addiction display characteristics of low self-esteem, depressive mood, and anxiety and also demonstrate a high correlation to narcissistic personality traits (Choi & Son, 2011; Pi, 2012). There are, however, significant differences between the two types of addictions. Through internet games, people not only have fun, but they also relieve stress and tension by pursuing temporary but immediate pleasure (Choi & Son, 2011; Oh, 2001). College students who display high rates of internet gaming addiction have difficulty expressing their emotions and opinions honestly and clearly while also struggling in their ability to listen attentively, ask appropriate questions, and respond in a socially appropriate manner (Lee, 2009). Those vulnerable to internet gaming addiction have a tendency to be impulsive and aggressive whereas those vulnerable to SNS addiction have a tendency to pursue social support because the core value of SNS is sharing, relationship, and communication (Pi, 2012). Internet gaming addiction is more common among men, whereas SNS addiction is more common among women (Kuss & Griffiths, 2011; Pi, 2012). These differences, however, have been found in a limited number of studies targeting a Korean population and are in need of further corroboration. Despite the negative consequences and dangers of internet gaming and SNS

addiction, research has focused on a limited sample, and has not thoroughly explored the college population and the different characteristics between the two. In particular, the college population can shed light upon the etiological risk of a nonclinical population as empirical literature has argued such behavioral addiction, like internet gaming addiction to follow a continuum (Kuss & Griffiths, 2011).

### **Perceived Parental Role and Behavioral Addiction**

In understanding the relationship between internet gaming and SNS addiction with psychological adjustment among college students, it is valuable to understand the role and relationship with the parents. This is because the quality of parenting during one's childhood has a longitudinal effect on overall health and well-being (Mallers et al., 2010; Shaw et al., 2004). Based on the attachment theory, parental relationships are the first made relationships, which in turn become the platform and foundation for an individual's personality and behavioral development as well as schematic activation (Ainsworth, 1989; Ju, 2013). Adolescents who grow up in a healthy family (i.e. having healthy relations and communication with their parents) are able to overcome the confusion and changes that come with puberty whereas adolescents who grow up in a dysfunctional family have difficulties coping with threats and thus display greater possibilities and tendencies toward addictive behavior (Kwon & Lee, 2006). The perspective of parenting throughout childhood is a strong predictor of one's psychological and physical well-being (Antonucci et al., 2004; Mallers et al., 2010; Repetti et al., 2002) and is relatively consistent throughout adolescence and into adulthood (Mallers et al., 2010; Rossi & Rossi, 1990). According to Shaefer (1965), more

than the actual behavior of the parent, the child's perception of parenting has a greater role on the child's overall adjustment. The retrospective perspective of the parental role is a stronger predictor of adulthood physical health more than current age, family illness history and everyday activities (Mallers et al., 2010; Russek & Schwartz, 1996). It is therefore valuable to examine students' retrospective viewpoint of their parents' roles throughout their childhood in understanding current psychological adjustment. Psychological adjustment can be manifested through maladaptive behavioral patterns such as internet gaming and SNS, which is especially pertinent to the Korean population, thus highlighting the value of exploring perceived parental relations.

In examining the retrospective perceived parental role, it is necessary to separately examine the role of the mother and the role of the father. This is because interaction with the mother is mostly expressed verbally whereas interaction with the father is more physical as stronger play forms are used (Parke & Tinsley, 1987). Mothers may play a stronger role for shaping overall safety and emotional health. Shin and You (2010) found that when mothers provided more affectionate and autonomous rearing, the child was able to better develop social maturity whereas when the mother was neglectful in attitude, social maturity resulted to be low.

On the other hand, as fathers interact with their children through active play behaviors, children have the opportunity to develop emotion regulation and problem solving skills (e.g.: Mallers et al., 2010). Teyber (1983) reported that college students undergo a process of becoming psychologically independent and therefore are in need of paternal support, which is a significantly influential factor for the college students' successful interpersonal relationships. Fathers who



provided positive communication toward their children resulted in the child's ability to learn social adjustment while being able to participate appropriately and functionally in a social construct (Kim, 1996). The more affectionate fathers were, the better social skills the children were reported to have (Woo, 2002). When over viewing the literature that examined the role of the father in children's development, the Korean sample showed a stronger relationship between paternal role and child development in comparison to the American sample (Lee, Lee, & Chin, 2012). Therefore, the qualitatively different role of the mother and the father is particularly pertinent to the South Korean population. There is a role the father fills that the mother cannot replace.

The current struggle of internet game and SNS addictions can be viewed in light of the relationship with the parents. When students feel isolated within the family, they may express such repressed emotions in the internet world (Nam & Lee, 2005; Young, 1998). For example, when students feel that parents do not care about them, they become immersed in the internet which provides a gateway toward addiction (Lee, 2001). With elementary school students and cell-phone addiction, the parent-child relationship held the greatest explanatory power above any other environmental and personal psychological variables (Lee & Lee, 2012). It has been found that the more controlling and overly intrusive parental behavior is, the higher the chances of internet addiction are (Lee, 2001; Nam & Lee, 2005).

## **Emotion Regulation and Behavioral Addiction**

Emotions are a natural phenomenon that all human beings innately experience. These emotions, whether positive or negative, are not meant to suppress nor ignore but are necessary for survival. Therefore, acknowledging the emotions in the present moment, understand its meaning, and in turn being able to respond to the current situation is a very important and necessary act (Lee & Kwon, 2006). Naturally, emotion regulation is of great importance to one's psychological health and well-being. Emotion regulation is defined differently by varying academics. Westen (1994) defines emotion regulation to be the increase of positive emotions and the decrease of negative emotions. On the other hand, Kopp (1989) characterizes emotion regulation to be the addressing of extreme emotions, whether positive or negative, and finding the proper harmony and balance between the two extremes. When negative emotions such as sadness, anxiety, and anger are accumulated due to an inability to effectively cope with them, this opens the gateway toward psychological maladaptiveness. Failure to regulate emotions in a healthy manner heightens negative emotions such as anxiety or depression, which in turn leads to hyperactivity or behavioral suppression (Lee & Kwon, 2006). Debilitated emotion regulation leads to self-destructive or problem behaviors and with a decline of social functioning can bring about other psychopathologies (e.g.: Cole et al., 1994; Southam-Gerow & Kendall, 2002).

There are many models that approach emotional regulation. Of the many models, the current study focuses on Min's model of emotion regulation being divided into three main dimensions: active regulation style, avoidant/distractive regulation style, and support-seeking regulation style (Min et al., 2000). Active

regulation strategy sets problem-solving plans while specifically acting upon those plans and shows an effort to understand emotions or situations. Avoidant and distractive regulation strategy involves avoiding the problematic situation while having distractive and dispersive attention. Finally, support-seeking regulation strategy is displayed by a need to receive emotional, functional support from others (Min et al., 2000).

Emotion regulation difficulties are related to behavioral addiction to the point in which some view emotional characteristics as the cause of behavioral addiction, thus claiming that behavioral addiction should be connected to mood disorders and part of the mood disorder spectrum (Woo et al., 2010). Behavioral addiction is viewed to have similar emotional characteristics as depression and anxiety (Woo et al., 2010). For example, middle school students' tendency to fall to internet game addiction depended on their level of depression (Nam & Lee, 2005) and researchers assert that emotion regulation difficulties contribute to cravings in behavioral disorders (de Castro et al., 2007). Therefore, exploring emotion regulation difficulties in two currently budding behavioral addictive patterns is highly pertinent and necessary. Further, understanding specific emotion regulation strategies can point more efficacious directions toward treatment.

## **The Purpose of the Present Study**

South Korean students spend a majority of their high school years heavily involved in preparation for the college entrance exam that only occurs once a year. Because of such accumulated stress with limited free time and liberty, many students enter college with high hopes, aspirations, and expectations. However, the coupling of a surplus of free time and flexibility along with various disappointments and stressors in facing reality opens the possibility and vulnerabilities for various kinds of addiction (Lee, 2009). Such vulnerabilities are made simply due to environmental reasons such as availability and accessibility (Woo et al., 2010). College students have easy access to the internet on campus; access is free and students are allowed to adjust their own schedules (De Leo & Wulfert, 2012; Kandell, 1998). This sheer availability could attract students who are dealing with a sudden drastic change in environment along with an amalgam of various emotions and stressors. As undergraduate students are in a developmental stage in approaching independence, such behavioral addiction can cause detrimental effects on students both personally and socially.

Until now, internet gaming addiction research has mostly focused on children to adolescents while SNS addiction research is overall lacking. Such studies directed toward children and adolescents have shown a strong association of poor parental communication and relationship with an increase of behavioral addictive patterns in the Korean population (Ju & Jwa, 2011; Lee & Lee, 2012; Nam & Lee, 2005). It is thus valuable to examine if such influences have lasting impacts as these children enter independence as college students. Additionally, behavioral addiction, specifically internet gaming and SNS addiction research is

mostly field survey-based and psychological pathways and potential causal factors have not been thoroughly explored. Therefore, the following study aims to explore the relationship among perceived parental role and emotion regulation difficulties with behavioral addictive tendencies (specifically internet gaming and SNS addictive tendencies). Furthermore, it aims to find distinctive characteristics of those vulnerable to internet gaming addiction compared to those vulnerable to SNS addiction.

Study 1 examined the relationship of retrospective perceived parental role and emotion regulation in internet gaming and SNS addictive tendencies. Through the exploration of these relationships, differences in the patterns of male and female students were examined. Also, the different effects and correlations of the retrospective perceived parental role for internet gaming and SNS were explored, namely by viewing the role of the mother and role of the father separately. Study 2 expanded upon the exploration of study 1 by narrowing into the relationship between emotion regulation and internet gaming and SNS addictive tendencies. The focus was made on emotion regulation in order to direct toward treatment implications by delving into the current emotional struggles and coping strategies used by those with addictive tendencies rather than merely exposing and understanding past relationships with the parents that cannot be changed or altered. The different emotion regulation strategies used by those vulnerable to internet gaming and SNS addictions were examined. Furthermore, through the execution of the classic and emotional Go/No-Go Task, difficulties in emotion regulation, particularly among those vulnerable to behavioral addictions were evaluated. Therefore, Study 1 examined differing characteristics of internet gaming and SNS addictive tendencies while exploring potential developmental factors that may

influence such behaviors. Study 2 took a step forward from the reported distinctive characteristics to qualitatively enhance the current struggles of those with addictive tendencies in order to imply more efficient treatment directions.

The aim of the current study is to explore and compare the differences and distinguishing characteristics of internet gaming and SNS addictive tendencies, two behavioral problems that are highly rampant and pertinent to the South Korean college population. This study expands upon the growing field of behavioral addiction and the crucial roles of parents, emotion regulation and emotion regulation strategies that lead to a vulnerability in internet gaming and SNS addictions. Delving into the characteristics of internet gaming and SNS addictive tendencies imply their underlying needs and desires, leading to more effective directions in treatment.

# **Study 1. Parental role and emotion regulation in college students with internet gaming and SNS addictive tendencies**

Study 1 examined the perceived parental role and emotion regulation in college students with internet gaming and SNS addictive tendencies. Current daily stress and present relationship with the parents were also included in the examination to hone in on the retrospective role of the parents.

Previous literature (e.g. Park et al., 2012) has stated that faulty parental relations and communication lead to greater internet use. Furthermore, those with internet gaming and SNS addictive tendencies have reported to use such mediums as a means of dysfunctional coping (Kuss & Griffiths, 2011). Based on previous literature, the following hypotheses were established.

Hypothesis 1. The internet gaming and SNS addictive groups will report less retrospective parental care and greater retrospective parental overprotection than the control group.

Hypothesis 2. The internet gaming and SNS addictive groups will report greater emotion regulation difficulties in comparison to the control group.

Hypothesis 3. The internet gaming addictive group and SNS addictive group will show significant differences in emotion regulation.

## Method

### Participants

The current study gathered data from 197 undergraduate college students who were taking a psychology course as a liberal arts class at Seoul National University during the summer of 2013. Students were recruited on the internet through a research participation system managed by the Seoul National University Psychology department. Participation was entirely voluntary as students had the option to choose among many studies running within the psychology department. The respondents comprised of 112 males and 85 females with an average age of the participants being 21.65 (ranging from 17~31 years, standard deviation 2.515).

### Measures

**Parental Bonding Instrument – Korean Version.** This scale is directed to an adult population and instructs individuals to answer each item to how they remember their parents during their first 16 years. There are 25 items on this scale, rated by a 4-point likert scale. The scale is presented twice, once pertaining to the role of the mother and once to the father, leading to a total of 50 items. Furthermore, the scale contains subscales that measure “care” and “overprotection.” The Parental Bonding Instrument, originally developed by Parker (1979), was translated and validated by Song (1992). The internal consistency (Cronbach’s  $\alpha$ ) of the Korean version for maternal overprotection was .87, paternal overprotection was .88, maternal care was .87, and paternal care was .90. Internal consistencies (Cronbach’s  $\alpha$ ) for the current study were .86 for maternal overprotection, .82 for paternal overprotection, .87 for maternal care, and .89 for



paternal care.

**Revised Life Stress Scale for College Students.** This scale was developed with a Korean college population by Chon et al. (2000). This scale measures current daily stressors undergraduate students may experience among the following realms: interpersonal relationships including friend, romantic, family and faculty relationships; task-related stress including academics, economy, future/career, and value system. This scale is included in order to control for alternate stressors students may experience on a daily basis (Chon et al., 2000). Internal consistencies (Cronbach's  $\alpha$ ) for the scale developed by Chon, Kim, and Yi were .81 for future/career problems, .88 for romantic relationships, .85 for economic problems, .76 for friendships, .83 for relationship with professors, .79 for problems with one's value system and .75 for academic problems. The 6 items pertaining to family problems were omitted. Internal consistencies (Cronbach's  $\alpha$ ) for the current study were .84 for future/career problems, .82 for romantic relationships, .90 for economic problems, .83 for friendships, .85 for relationship with professors, .86 for problems with one's value system and .88 for academic problems.

**Difficulties in Emotion Regulation Scale – Korean Version; KDERS.** This is the Korean version of the Difficulties in Emotion Regulation Scale (DERS) (Cho, 2007; Gratz & Roemer, 2004). It contains 36 items on a 5-point likert scale. Gratz and Roemer (2004) developed this scale with a six-factor solution: impulse control difficulties, lack of attention to and awareness of emotions, nonacceptance of emotions, lack of emotional clarity, limited access to emotion regulation strategies,

and difficulties in engaging in goal-directed behavior. The internal consistency (Cronbach's  $\alpha$ ) of the original scale was .93, and that of the Korean version (Cho, 2007) was .92. The internal consistency of the KDERS scale for the current study was .93.

**Internet Game Engagement Level.** This scale, developed by Kim et al. (2009), has 31 items on a 5-point likert scale. The 31 items are constructed under 7 factors: self control, interest level, emotional experience, competitiveness with other users, positive expectancy, virtual community, and engagement level. The internal consistencies (Cronbach's  $\alpha$ ) for the 7 factors within the scales are: .925 for self control, .823 for emotional experience, .872 for positive expectancy, .869 for engagement level, .766 for competitiveness with other users, .748 for virtual community, and .731 for interest level. The overall internal consistency was .893 (Kim et al., 2009). The overall internal consistency for the current study was .93.

**SNS Addiction Tendency Scale.** This scale developed by Pi (2012), has 15 items on a 4-point likert scale. The subcategories within this scale are: difficulty in everyday life, virtual world directiveness, tolerance, and withdrawal. The overall internal consistency (Cronbach's  $\alpha$ ) of this scale was found to be .89 (Pi, 2012), and for the current study was .90.

**The Inventory of Parent and Peer Attachment-Revised: IPPA-R.** This scale was developed to understand college students' cognitive, emotional, and behavioral attachment level with their parents. The IPPA-R was developed by Armsden and Greenberg (1987) and then translated and validated by Ok (1998). This scale was

included to control for current relationships students have with their parents in order to focus on the effect and influence of retrospective relationships. There are 25 items on a 5-point likert scale and each item is applied both to the mother and father, resulting in a total of 50 items. The “trust” subscale has 10 items, “communication” subscale has 9 items, and the “isolation” subscale has 6 items. In Armsden & Greenberg’s (1987) research, the internal consistencies (Cronbach’s  $\alpha$ ) for paternal attachment was .89 and maternal attachment was .87. The internal consistencies for the current study were .95 for paternal attachment and .94 for maternal attachment.

## **Procedure**

Participants filled out the entire questionnaire on the internet. Participants were recruited online by the research participation system (R-Point program) managed by the Seoul National University Psychology department. Students had the liberty to choose to participate in whichever study they desired as the nature, purpose, duration, process of the study as well as the number of people participating were briefly explained. Participants had the liberty to stop the study whenever they desired and confidentiality was assured.

## Statistical Analysis

Statistical analysis was performed using the SPSS 18.0 program.

Before filling out the questionnaires, students were first asked three questions that could potentially influence the value of their retrospective relationship with their parents: whether their parents are currently alive, who their main caretaker was while growing up and if their parents lived together while growing up. Only 11 students reported that one of their parents was not alive (3 reported only a surviving father and 8 reported a surviving mother). Further, 5 students reported having their grandmother as their main caretaker and one student reported both their grandparents. Nine students reported parents that were not together throughout the duration of their childhood. When these cases were omitted for statistical analyses, there was not a significant difference in the results. Therefore, because the number of descriptive reports of these potentially influential variables was minimal, they were kept in the overall statistical analyses.

In order to view the correlations among all the variables, Pearson's correlation analysis was performed. The total scores of internet gaming and SNS were calculated separately and the top 16% (i.e.:  $1\sigma$ ) comprised the two addictive conditions. The lowest 25% scores of both internet gaming and SNS comprised a single control condition. An analysis of variance was executed in order to examine the differences in these three groups in relation to retrospective and current parental relationship, emotion regulation difficulties, and daily stress. A post-hoc analysis was performed in order to explore the group differences.

## Results

### Gender differences of Study 1 Variables

Table 1 summarizes the gender differences calculated by mean and standard deviation of each measured variable of Study 1. Internet gaming displayed a significant gender difference ( $t(195)= 3.522, p<.001$ ) as male students resulted in a significantly higher score ( $M=56.48, SD=18.94$ ) in comparison to female students ( $M=46.76, SD=16.82$ ). On the other hand, SNS addictive tendencies resulted in the opposite direction in which a significant gender difference ( $t(195)=-2.226, p<.05$ ) was found. Female students scored higher ( $M=30.65, SD=8.37$ ) in comparison to their male counterparts ( $M=27.89, SD=8.63$ ). There were no other significant gender differences in the measured variables.

Table 1. *Behavioral Addiction, parental roles, daily stress, and emotional regulation of male and female students.*

	Mean (Standard Deviation)			<i>t</i>
	Males ( <i>n</i> =112)	Females ( <i>n</i> =85)	Total ( <i>N</i> =197)	
Game	56.48 (18.94)	46.76 (16.82)	52.31 (18.65)	3.522***
SNS	27.89 (8.63)	30.65 (8.37)	29.06 (8.61)	- 2.226*
M_Care	37.99 (5.77)	38.24 (5.38)	38.10 (5.59)	- 0.306
M_OP	27.80 (6.77)	27.39 (6.62)	27.62 (6.69)	0.415
F_Care	33.51 (6.97)	35.00 (6.45)	34.15 (6.77)	- 1.535
F_OP	24.49 (6.14)	25.08 (5.24)	24.75 (5.76)	- 0.723
Stress	75.93 (18.84)	76.29 (20.59)	76.09 (19.55)	- 0.122
EmReg	92.83 (19.30)	88.06 (20.40)	90.67 (19.89)	1.583
IPPA_F	88.46 (19.70)	87.05 (19.89)	87.85 (19.74)	0.479
IPPA_M	95.13 (17.44)	94.01 (18.17)	94.62 (17.73)	0.408

M\_Care = PBI – Maternal care, M\_OP = PBI – Maternal overprotection, F\_Care = PBI – Paternal care, F\_OP = PBI – Paternal overprotection, Stress = Daily stress, EmReg = Emotional Regulation, IPPA\_F = Current paternal attachment, IPPA\_M = Current maternal attachment

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

Table 2. *Correlation Coefficients of measures used in Study 1 (N=197)*

	1	2	3	4	5	6	7	8	9	10
1.Game										
2.SNS	.068									
3.M_care	-.213**	-.064								
4.M_OP	.221**	.194**	-.502**							
5.F_care	-.198**	.168*	.394**	-.182*						
6.F_Op	.171*	.079	-.307**	.357**	-.288**					
7.Stress	.465**	.213**	-.207**	.191*	-.229**	.224**				
8.EmReg	.304**	.259**	-.220**	.344**	-.139	.185*	.414**			
9.IPPA_F	-.182*	-.013	.532**	-.365**	.760**	-.512**	-.353**	-.329**		
10.IPPA_M	-.248**	-.176*	.756**	-.609**	.353**	-.251**	-.299**	-.374**	.603**	

1 = Internet gaming, 2 = SNS, M\_care = PBI- maternal care, M\_OP = PBI- maternal overprotection, F\_Care = PBI – paternal care, F\_Op = PBI – paternal overprotection, Stress = Daily stress, EmReg = emotion regulation difficulties, IPPA\_F = paternal attachment, IPPA\_M = maternal attachment

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

## **Correlations of Game and SNS, Retrospective Parental Role, and Emotional Regulation**

As the correlational chart above summarizes, all four subcategories of retrospective parental relationship, maternal care ( $r(197)=-.213, p<.01$ ), maternal overprotection ( $r(197)=.221, p<.01$ ), paternal care ( $r(197)=-.198, p<.01$ ), and paternal overprotection ( $r(197)=.171, p<.05$ ) were significantly related to internet gaming whereas only maternal overprotection ( $r(197)=.194, p<.01$ ) and paternal care ( $r(197)=.168, p<.05$ ) were weakly correlated to SNS addiction. The correlation between paternal care with internet gaming and SNS are of opposite directions. The less paternal care students received while growing up was related to greater tendencies toward internet gaming addiction whereas the more paternal care students received while growing up was related to greater tendencies toward SNS addiction. Unlike retrospective paternal care, maternal overprotection was significantly related to both internet gaming and SNS in the same direction, in which greater retrospective maternal overprotection correlated to high scores on both behavioral addictions.

Furthermore, difficulties in emotion regulation were positively related to both internet gaming ( $r(197)=.304, p<.01$ ) and SNS addiction ( $r(197)=.259, p<.01$ ). Difficulties in emotion regulation were negatively correlated with maternal care ( $r(197)=-.220, p<.01$ ) and positively correlated with maternal overprotection ( $r(197)=.344, p<.01$ ). Directionality was parallel to the retrospective paternal role but was not statistically significant.

Evidently, daily stress positively correlated with internet gaming ( $r(197)=.465, p<.01$ ) and SNS ( $r(197)=.213, p<.01$ ) addictive tendencies. Current parental relations were also negatively related with both behavioral addictions.

Paternal attachment ( $r(197)=-.182, p<.05$ ) and maternal attachment ( $r(197)=-.248, p<.01$ ) were negatively correlated with internet gaming addictive tendencies. On the other hand, only maternal attachment ( $r(197)=-.176, p<.05$ ) was significantly correlated to SNS addictive tendencies.

### **Chi-Square Results of Gender and Behavioral Addiction**

Table 3 summarizes the chi-square analysis of gender and behavioral addiction. The addictive conditions were established by using 1 standard deviation value ( $1\sigma$ ); the highest 16% of the internet gaming score comprised the game addictive condition and the highest 16% of the SNS scores comprised the SNS addictive condition. The control condition was comprised of students that scored in the bottom 25% of the scores for both internet gaming and SNS. There were only  $N=5$  people that displayed addictive tendencies to both gaming and SNS, and therefore their cases were omitted from the analyses.

Due to missing data, the number of students that comprised the game addictive condition, SNS addictive condition, and control condition resulted to a small  $n$  value of 15, 14, and 16, respectively. The chi-square analysis of the three groups by gender was significant,  $\chi^2(2, N= 45) = 6.788, p<.05$ .

Table 3. *Chi-Square results on gender and behavioral addiction*

	Game Addictive Condition	SNS Addictive Condition	Control Condition	Total
Male	13	7	7	27
Female	2	7	9	18



## Group Comparisons with Retrospective and Current Parental Roles

Table 4 summarizes the characteristics of each group (i.e.: internet gaming addictive condition, SNS addictive condition, and control condition) in relation to retrospective perceived parental role and current parental relationship. Both retrospective and current relations with the parents were examined separately for the mother and the father. Namely, the retrospective perceived parental role was divided into four subcategories: maternal care and overprotection and paternal care and overprotection. Current parental relationship was divided into paternal attachment and maternal attachment.

When viewing the role of the mother, retrospective perceived maternal care, maternal overprotection and current maternal relationship all resulted significant differences with both behavioral addictions in comparison to the control condition. More specifically, retrospective perceived maternal care was significantly lower for internet gaming and SNS addictive conditions in comparison to the control condition,  $F(2, 42)=5.041$ ,  $p<.01$ . Retrospective perceived maternal overprotection was significantly higher for internet gaming and SNS addictive conditions in comparison to the control condition,  $F(2, 42)=5.823$ ,  $p<.01$ . Current maternal attachment was significantly lower for internet gaming and SNS addictive conditions in comparison to the control condition,  $F(2, 42)=3.806$ ,  $p<.05$ .

When viewing the role of the father, internet gaming and SNS addictive tendencies showed to have a significant difference in relation to retrospective perceived paternal care in which the SNS addictive condition was significantly higher than the internet gaming addictive condition  $F(2, 42)=4.222$ ,  $p<.05$ .

Differences for retrospective perceived paternal overprotection were not significant. Only internet gaming was significantly lower to the control condition in relation to current paternal relationship  $F(2, 42)=3.617, p<.05$ .

An analysis of covariance was executed in order to control for the potential effects of gender by inputting gender as the covariate. However, there were no significant gender effects and retrospective maternal care and overprotection, paternal care, and current parental relations still showed significant main effects in relation to internet gaming and SNS addictive tendencies.

Table 4. *Group comparisons of retrospective and current parental roles*

	Game Addictive ( <i>n</i> =15)	SNS Addictive ( <i>n</i> =14)	Control Condition ( <i>n</i> =16)	<i>F</i>	LSD
PBIM_Care	35.30 (7.07)	36.64 (2.98)	40.90 (4.42)	5.041**	3>2,1
PBIM_OP	28.47 (6.44)	29.07 (7.41)	22.19 (4.64)	5.823**	2,1>3
PBIF_Care	30.27 (8.12)	34.93 (3.73)	35.94 (4.31)	4.222*	3,2>1
PBIF_OP	26.13 (6.23)	25.93 (4.20)	22.19 (5.44)	2.638	<i>ns</i>
IPPA_F	81.13 (18.36)	88.71 (15.35)	97.19 (15.97)	3.617*	3>1
IPPA_M	84.47 (20.14)	88.64 (19.22)	102.19 (19.89)	3.806*	3>2,1

PBIM\_Care = Retrospective maternal care, PBIM\_OP = Retrospective maternal overprotection, PBIF\_Care = Retrospective paternal care, PBIF\_OP = Retrospective paternal overprotection, IPPA\_F = Paternal Attachment, IPPA\_M = Maternal Attachment  
\* $p<.05$ . \*\* $p<.01$ .

## Group Comparisons with Emotion Regulation and Daily Stress

Daily stress and emotion regulation resulted differently. For daily stress, there was no significant difference among the three conditions,  $F(2, 42)=.354$ , *ns*. On the other hand, only SNS addictive tendencies displayed significantly lower emotion regulation to the control condition  $F(2, 42)=3.493$ ,  $p<.05$ .

Table 5. *Group comparisons of emotion regulation and daily stress*

	Game Addictive ( <i>n</i> =15)	SNS Addictive ( <i>n</i> =14)	Control Condition ( <i>n</i> =16)	<i>F</i>	LSD
Stress	76.07 (22.45)	80.93 (21.33)	75.13 (15.89)	0.354	1=2=3
EmReg	93.42 (20.43)	98.35 (20.15)	79.95 (19.16)	3.493*	2>3

Stress = Daily Stress, EmReg = Emotion Regulation difficulties

\* $p<.05$ .

## Discussion

In Study 1, the retrospective perceived parental role, current parental attachment and emotion regulation difficulties were explored in terms of behavioral addictive tendencies (i.e.: internet gaming and SNS addictive tendencies). Retrospective perceived parental roles were further subcategorized to maternal care and overprotection and paternal care and overprotection. Current parental attachment was included in the analyses in order to compare to the area of greater interest of the retrospective perceived parental role. Similarly, the measure of daily stress was included in order to gauge at students' current statuses in influencing present behavioral patterns and manifestations of addictive tendencies

Results showed a difference in male and female students and their experience with addictive behavioral patterns. Firstly, male students were more vulnerable to internet gaming addictive tendencies and female students were more vulnerable to SNS addictive tendencies, which is consistent with findings from previous literature (Ju & Jwa, 2011; Kuss & Griffiths, 2011; Lee, 2001; Pi, 2012). When the sample was divided into the two addictive conditions and a single control condition, chi square results showed a clear concentration of males toward internet gaming.

In viewing the relationship between parental roles with internet gaming, correlational results showed internet gaming to be related to all subcategories of retrospective parental roles. The analysis of variance further supported the gaming addictive group's characteristics of parental relations. As hypothesized, less retrospective perceived parental care and more retrospective perceived parental overprotection correlated to greater tendencies toward internet gaming addiction. This is consistent with previous literature in which parental overprotection has

been shown to lead to greater risks of behavioral addiction (e.g.: Nam & Lee, 2005). This also corroborates findings in which familial, particularly parental conflict and poor parental relationships have linked to children preferring the internet environment over reality (De Leo & Wulfert, 2012). Furthermore, disruptive parent-child relationships were linked to heightened internet use as well as addictive tendencies (Lee & Lee, 2012).

In alignment with the retrospective parental role, students in the internet gaming addictive group reported less current paternal and maternal attachment in comparison to those in the control condition. There are multiple studies that support this finding in which the more problematic parental relations are, the higher the probability students have in being vulnerable to internet gaming addiction (Ju & Jwa, 2011). These findings support the hypothesis of the significant parental role in internet gaming addictive tendencies, although differences in the mother-child and father-child relationships were not found.

For SNS on the other hand, retrospective maternal overprotection and retrospective paternal care were the only two subcategories that showed significant correlations to addictive tendencies. In relation to the mother, the SNS addictive condition showed a parallel pattern to that of the internet gaming addictive condition in reporting lower retrospective maternal care, greater retrospective maternal overprotection, and lower current maternal attachment. This pattern further supports the first hypothesis. These results also parallel to the literature in which parental communication, and in particular maternal role and communication showed to be a robust predictive variable of addictive cell-phone use (Lee & Lee, 2012).

However, when viewing the role and relationship with the father, the SNS

addictive condition showed a different pattern than that of the internet gaming addictive condition. For SNS, the directionality of retrospective paternal care was opposite to that of internet gaming, in which greater care throughout childhood was related to higher scores on the SNS addictive tendencies questionnaire. Furthermore, no significant current paternal relations were noted. A potential explanation for these results may be suggested in the exploration of gender differences. A meta-analytic study conducted by Lee et al. (2012) found that father involvement in Korea has reported the paternal role to have a greater effect on daughters than on sons. Overall, the empathy of Korean fathers has led to effect children's emotion regulation, emotional attentiveness, and coping behaviors (Kim et al., 2010). These findings could be the basis of further gender difference investigations on SNS addictive tendencies. However, because of the small  $n$  value of college students in the SNS addictive group, it is difficult to further delve into different patterns and relationships by gender in the present study.

The contrast between positive retrospective paternal role and negative current paternal relations can be suggested. This is supported by literature that has shown that those with addictive tendencies begin to replace SNS with traditionally valued relationships (Hampton et al., 2009). Because SNS is concentrated in the interaction with friends and peers, this need for social support may be attempted to be filled in the friendship realm, but not in the familial realm (Oh, 2011). Therefore, the significant influence of the paternal role while growing up could highlight the current social need or loneliness of those with such personality characteristics or vulnerabilities (Kuss & Griffiths, 2011; Oh, 2011). The need to belong with others influences the psychological intensity toward SNS addiction (Pelling & White, 2009). Students with SNS addictive tendencies may experience a greater need for

social support and dependence, and with the consequent engagement of SNS may begin to invest and interact more with relationships found on SNS, diminishing the importance of offline, namely paternal relationships. In other words, students with SNS addictive tendencies may be experiencing and attempting to bridge the stark contrast between their retrospective valued relationship with their father and their current relationship with their father or loneliness by the replacement of SNS. These suggestions are tentative and are in need of further investigation with a significantly larger number of students.

These findings partially support the first hypothesis in which not all retrospective perceived parental roles nor current parental attachment were related to SNS addictive tendencies. The SNS addictive group showed a unique relationship with retrospective paternal care, which highlights the importance of the role of the father. However, the paternal role in relation to SNS addiction, possibly by gender, is in need for future study and further elaboration and examination. These results may point to different pathologies of internet gaming and SNS addictions.

Finally, there were no differences in the experience of daily stress for all three groups. This serves the purpose of streamlining the overall stress level of the students while suggesting that the differences internet gaming and SNS addictive groups have cannot be attributed to more exposure or experience of daily stress. Only the SNS addictive group reported significant mean differences in emotion regulation difficulties compared to the control group, which partially supports the second hypothesis. Furthermore, the SNS addictive group showed to struggle with greater emotion regulation difficulties in comparison to the internet gaming addictive group, which supports the third hypothesis of the study.

## **Study 2. Emotion regulation strategies in college students with internet gaming and SNS addictive tendencies**

Study 2 was designed in order to identify emotion regulation difficulties among those susceptible to internet gaming and SNS addictions. Furthermore, it explored the relationship between the three emotion regulation strategies (Min, Kim, Yoon, & Jahng, 2000) and those with internet gaming and SNS addictive tendencies.

The current study explored specific emotion regulation strategies used by those with internet gaming and SNS addiction tendencies. Current depressive symptomatology was also included in order to understand its potential influence and effect on addictive tendencies for undergraduate students.

Secondly, the identification of emotion regulation difficulties was explored through the emotional go/no-go task which was developed from the classic go/no-go paradigm that has been used for decades to test behavioral inhibition (Costantini & Hoving, 1973; White, 1981). The go/no-go paradigm consists of a continual stream of stimuli in which, depending on the specific cue, participants are to either respond as fast as possible, or inhibit their response. The “go” cues, in which participants are to respond, have a frequency of  $\geq 75\%$ , which sets up a prepotent tendency to respond and they must thus inhibit their response to the remaining “no-go” cues (Schulz et al., 2007). This classic paradigm normally instructs participants to respond to a green circle (i.e. the “go” cue) and withhold response to a red circle (i.e. the “no-go” cue). The emotional go/no-go task is built upon the same paradigm and instructions, but the cues are replaced with faces that



contain different emotional valences (e.g. happy versus sad). Consequently, the task not only measures behavioral inhibition but also emotional regulation (Drevets & Raichle, 1998; Schulz et al., 2007). Therefore, the current study sought to compare emotion regulation difficulties in addiction tendency groups and control group through the emotional go/no-go task. In order to compare the emotional go/no-go task to a standard and control, the classic go/no-go task was presented previous to the emotionally charged task.

The hypotheses and predictions established for Study 2 were as follows:

Hypothesis 1. Internet gaming and SNS addictive tendencies will have a significant relationship with emotion regulation strategies.

Prediction 1. Internet game addictive students will display more of an avoidant and distractive emotion regulation strategy.

Prediction 2. SNS addictive students will display more of a support-seeking emotion regulation strategy.

Hypothesis 2. In comparison to the control group, students in the addictive groups will have more difficulties in the emotional go/no-go behavioral task, which measures emotion regulation skills. Further, the SNS addictive group will show the highest difficulty in the emotional go/no-go task.

# Method

## Participants

The current study gathered data from 199 undergraduate college students who were taking a psychology course as a liberal arts class or major exploration class at Seoul National University during the fall of 2013. Students were recruited on the internet through a research participation system managed by the Seoul National University Psychology department. Participation was entirely voluntary as students had the option to choose among many studies running within the psychology department. The respondents comprised of 84 males and 115 females with an average age of the participants being 20.30 (ranging from 17~27 years, standard deviation 1.870).

## Measures

**Internet Game Engagement Level.** This scale is the same as that of Study 1. The overall internal consistency (Cronbach's  $\alpha$ ) for study 2 was .89.

**SNS Addiction Tendency Scale.** This scale is the same as that of Study 1. The overall internal consistency (Cronbach's  $\alpha$ ) for study 2 was .90.

**Emotion Regulation Strategies Checklist.** This scale was developed by Min et al. (2000), and has 12 items that can be categorized into the three subcategories: active regulation strategy, avoidant/distractive regulation strategy, and support-seeking

regulation strategy. Internal consistencies (Cronbach's  $\alpha$ ) for each strategy of the scale were .73 for active regulation strategy, .55 for avoidant/distractive regulation strategy, and .76 for social-seeking regulation strategy. (Min et al., 2000). The internal consistencies for the current study were .75 for active regulation strategy, .56 for avoidant/distractive regulation strategy, and .78 for social-seeking regulation strategy.

**Center for Epidemiological Studies-Depression Scale; CES-D.** This scale was developed by Radloff (1977), with a total of 20 items designed to measure depressive symptomatology in the general population. The items of the scale are symptoms associated with depression based on a 4-point likert scale of the frequency in which people experience such symptoms. Items pertain to behavioral, physical, cognitive symptoms in relation to depressive states. The internal consistency (Cronbach's  $\alpha$ ) of a nonclinical population of the original scale was .85. The current study used the translated Korean version (Chon & Rhee, 1992) which had an internal consistency of .91 and for the current study was .90.

### **Behavioral Task**

**Go/No-Go Tasks.** The Go/No-Go tasks were developed with Javascript Hypertext Preprocessor (PHP). Students participated in the tasks independently – either on their personal computers, or on the school computer. The task was run through the Google chrome browser. Each block contained 60 stimuli, 75% of which were go cues and 25% of which were no-go cues. For both classic and emotional go/no-go

tasks, the number of correct answers, omission error, false alarm, and reaction time were measured. For the classic go/no-go task, the omission error has been reported to measure inattentiveness, false alarm to measure impulsivity and disinhibition, and reaction time to measure impulsivity (Kim, 2010). For the emotional go/no-go task, the omission error has been reported to measure the suppression of emotional responses as well as inattentiveness, false alarm to measure disinhibition and impulsivity, and reaction time to measure the processing speed of emotional information as well as impulsivity (Kim, 2010).

**Classic Go/No-Go Task.** The classic go/no-go task was presented to students first. The task started with a fixed point (+) which was immediately followed by the stimulus. The red and green circles were of the same approximate size and luminance as the facial expressions for the stimuli of the emotional go/no-go task. When the green circle appeared, participants were directed to press ‘/’ as fast as possible and when the red circle appeared, participants were directed to withhold from pressing the button. The stimuli were displayed for 500ms with an inter-stimulus (ITI) interval of 300ms.

**Emotional Go/No-go Task.** Previous literature has proven that the emotional go/no-go task measures emotional regulation difficulties by displaying greater deficits in behavioral inhibition in situations when emotional processing is required (Kim, 2010; Schulz et al., 2007). This task was used to experimentally confirm difficulties in emotion regulation among those with internet gaming and SNS addictive tendencies. The stimuli for go and no-go cues consisted of happy and sad

facial expressions from 14 individuals (7 male and 7 female). Stimuli were displayed for 700ms and the inter-stimulus intervals (ITI) were 300ms. For the happy-face condition, the happy face was the go-cue and the sad face was the no-go cue. Immediately after the fixed point (+) presented on the screen, the stimulus followed (either happy or sad face). For the happy-face condition, when a happy face appeared, participants were directed to press '/' as fast as possible and when the sad face appeared, participants were directed to withhold from pressing the button. For the sad-face condition, the sad face was the go-cue and the happy face was the no-go cue. Directions were opposite to that of the happy emotion state in which participants were instructed to press the '/' key for the sad face. Happy and sad facial expressions were alternated as go and no-go cues across flour blocks in an HSSH/SHHS order. According to Schulz's research (2007), the emotional go/no-go task is reported to appropriately measure behavioral inhibition and emotion regulation difficulties.

# Procedure

## Control Condition

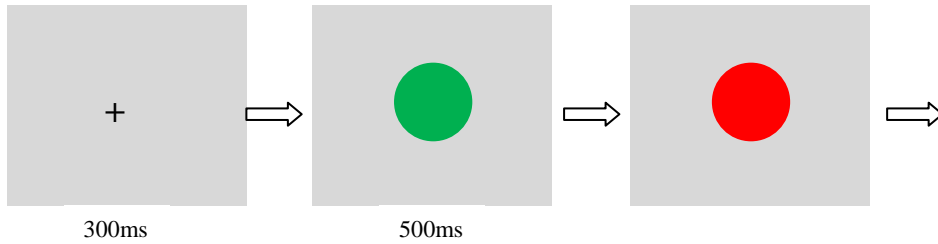


Figure 1. *Example of Classic Go/No-Go Behavioral Task*

## Happy Condition (Happy face as the “go” cue, sad face as the “no-go” cue)

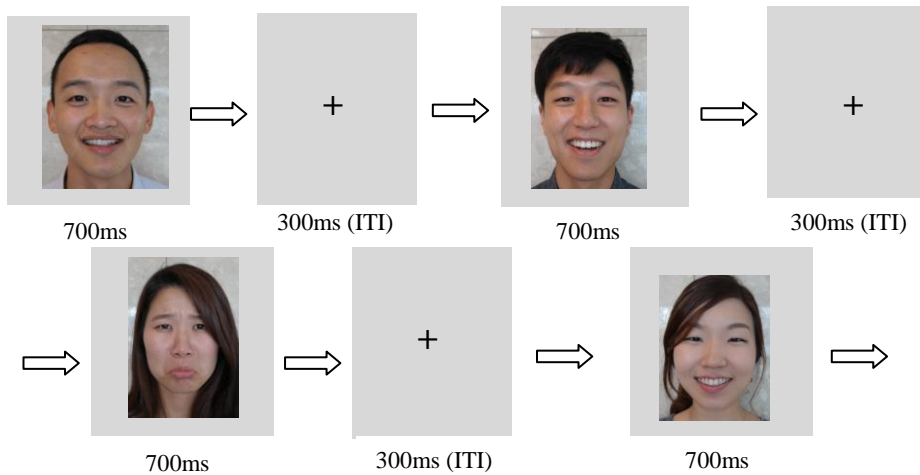


Figure 2. *Example of Emotional Go/No-Go Behavioral Task*

## Statistical Analysis

Statistical analysis was performed using the SPSS 18.0 program.

The overall correlation of emotion regulation strategies, internet gaming and SNS addictions as well as depressive symptomatology (CES-D) was calculated with Pearson's correlation analysis. Afterwards, parallel to Study 1,  $1\sigma$  was used as the cut-off standard for the addictive condition. The top 16% of the internet gaming and SNS scores comprised the two addictive conditions. For study 2, the bottom 25% of both scores resulted in only  $N=7$  students (2 males and 5 females). Therefore, in order to increase the number of students of the single control condition, the bottom 50% of both scores were comprised as a single control condition, as this raised the number of students to  $n = 43$ . The differences in emotion regulation strategies were examined for the three conditions. With observed gender differences based upon descriptive statistics, analysis of covariance was executed for internet gaming and SNS in relation to the emotion regulation strategies while inputting gender as the covariate.

For the behavioral task, the differences between internet gaming and SNS addictive groups and the control group were compared by examining the differences in their overall performance on the classic and emotional go/no-go task. Furthermore, the emotional go/no-go task was separately examined by the happy condition and the sad condition.

# Results

## Gender differences

Table 6 summarizes the gender differences measured by mean and standard deviation of each measured variable of Study 2. Internet gaming displayed a significant gender difference ( $t(197)= 6.878, p<.001$ ) as male students resulted in a significantly higher score ( $M=63.80, SD=15.82$ ) in comparison to female students ( $M=49.54, SD=11.56$ ). On the other hand, SNS addictive tendencies resulted in the opposite direction in which a significant gender difference ( $t(197)=-3.853, p<.001$ ) was found. Female students scored significantly higher ( $M=33.62, SD=7.64$ ) in comparison to their male counterparts ( $M=28.99, SD=7.99$ ). These results are parallel to the gender differences of Study 1 variables.

Furthermore, the support seeking emotion regulation strategy reported a significant gender difference ( $t(197)=-4.135, p<.001$ ) with females reporting significantly higher ( $M=12.05, SD=2.33$ ) than males ( $M=11.31, SD =2.01$ ). The CES-D score that measures depressive symptomatology also reported a significant gender difference ( $t(197)=-3.286, p<.001$ ) with female students ( $M=39.76, SD =8.80$ ) than males ( $M=35.00, SD=9.96$ ) in displaying overall higher scores of depressive symptoms.



Table 6. Behavioral addictions, emotion regulation strategies, and depression of male and female students

	Mean (Std. Deviation)			<i>t</i>
	Males ( <i>n</i> =79)	Females ( <i>n</i> =104)	Total ( <i>N</i> =199)	
Game	63.80 (15.82)	49.54 (11.56)	55.92 (15.28)	6.878***
SNS	28.99 (7.99)	33.62 (7.64)	31.73 (8.09)	- 3.853***
ER_A	11.50 (2.08)	10.91 (2.34)	11.19 (2.25)	1.782
ER_D	10.70 (1.93)	10.57 (2.04)	10.62 (1.98)	0.450
ER_S	11.31 (2.01)	12.65 (2.37)	12.05 (2.33)	- 4.135***
CESD	35.00 (9.69)	39.76 (8.80)	37.63 (9.46)	- 3.286***

ER\_A = Active emotion regulation strategy, ER\_D = Avoidant/Distractive emotion regulation strategy, ER\_S = Social seeking emotion regulation strategy, CES-D = Depressive symptomatology

\*\*\* $p < .001$ .

### Correlations of Emotion Regulation strategies, Game, SNS, and Depressive Symptomatology

The correlation coefficients of the variables explored in Study 2 are summarized in table 7. Depressive symptomatology (measured by CES-D) was negatively correlated with active emotion regulation strategy ( $r(199) = -.226, p < .01$ ) while being positively correlated with SNS addictive tendencies ( $r(199) = .278, p < .01$ ). Furthermore, SNS addictive tendencies resulted to be significantly correlated with support seeking emotion regulation strategies ( $r(199) = .261, p < .01$ ). On the other hand, internet gaming did not significantly correlate with any of the three emotion regulation strategies.

Table 7. *Correlation coefficients of measures used in Study 2 (N=199)*

	1	2	3	4	5	6
1.ER_A						
2.ER_D	.228					
3.ER_S	.370**	.221**				
4.Game	.060	.072	-.134			
5.SNS	-.102	.125	.261**	-.082		
6.CESD	-.226**	.103	.062	.025	.278**	

ER\_A = Active emotion regulation strategy, ER\_D = Avoidant/distractive emotion regulation strategy, ER\_S = Support seeking emotion regulation strategy, Game = Internet game, SNS = SNS addictive tendencies, CES-D = Depressive symptomatology  
 \* $p < .05$ . \*\* $p < .01$ .

### Chi Square Results of Gender and Behavioral Addiction

Table 8 summarizes the chi-square analysis of gender and behavioral addiction. The two addictive conditions were established in the same manner as Study 1, and the single control condition comprised of the lowest 50% of both internet gaming and SNS addictive scores. The concentration of males in the internet gaming addictive condition and females in the SNS addictive condition is evident through the table above as it is consistent with the results from Table 6. There were only  $N=4$  people that displayed addictive tendencies to both gaming and SNS, and therefore their cases were omitted from the analyses.

Due to missing data, the number of students that comprised the game addictive condition, SNS addictive condition, and control condition resulted to a small  $n$  value of 24, 22, and 41, respectively. The chi-square analysis of the three groups by gender was significant,  $\chi^2(2, N=87) = 28.309, p < .001$ .

Table 8. *Chi-Square results on gender and behavioral addiction*

	Game Addictive Condition	SNS Addictive Condition	Control Condition	Total
Gender				
Male	20	3	11	34
Female	4	19	30	53

### Emotion Regulation Strategies and Behavioral Addiction

Table 9 summarizes the characteristics of each group (i.e.: internet gaming addictive condition, SNS addictive condition, and control condition) in relation to the specific emotion regulation strategies as well as depressive symptomatology. Active emotion regulation strategy, avoidant/distractive emotion regulation strategy and support-seeking emotion regulation strategy did not show significant differences among the three groups,  $F(2, 84)=.352, ns$ ;  $F(2, 84)=.615, ns$ ;  $F(2, 84)=2.331, ns$ . Depressive symptomatology also did not result in any significant group differences,  $F(2, 84)=1.210, ns$ .

Table 9. *Group comparisons of emotion regulation strategies*

	Game Addictive ( <i>n</i> =24)	SNS Addictive ( <i>n</i> =22)	Control Condition ( <i>n</i> =41)	<i>F</i>
Emreg_A	11.63 (1.84)	11.09 (1.76)	11.22 (2.82)	0.352
Emreg_D	10.79 (2.13)	10.87 (1.63)	10.34 (2.25)	0.615
Emreg_S	12.00 (1.77)	13.22 (1.86)	11.98 (2.84)	2.331
CESD	37.88 (11.53)	39.30 (10.54)	35.56 (7.62)	1.210

Emreg\_A = Active emotion regulation strategy, Emreg\_D = Avoidant/Distractive emotion regulation strategy, Emreg\_S = Support-seeking emotion regulation strategy, CESD= depressive symptomatology

Table 10. Summary of ANCOVA for emotion regulation strategies

Source	Dependent Variable	Type III			
		Sum of Squares	df	Mean Square	F
Gender	Emreg_A	0.500	1	0.500	0.093
	Emreg_D	0.971	1	0.971	0.221
	Emreg_S	58.334	1	58.334	11.780***
	CESD	544.950	1	544.950	6.351*
Group	Emreg_A	5.910	2	2.955	0.547
	Emreg_D	5.338	2	2.669	0.609
	Emreg_S	24.593	2	12.297	2.483
	CESD	457.952	2	228.976	2.668

Emreg\_A = Active emotion regulation strategy, Emreg\_D = Avoidant/Distractive emotion regulation strategy, Emreg\_S = Support-seeking emotion regulation strategy, CESD= depressive symptomatology

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

Because table 9 reported no significant differences among the three conditions, an analysis of covariance was executed by inputting gender as the covariate. Evidently, support-seeking emotion regulation ( $F(1, 83)=11.780$ ,  $p < .001$ ) and depressive symptomatology ( $F(1,83)=6.351$ ,  $p < .05$ ) reported significant gender effects. This is consistent with the gender differences summarized in the descriptive data from Table 6.

## Behavioral Task Analyses

Table 11 summarizes the results for both the classic go/no-go task and the emotional go/no-go task. The number of students that comprise the game addictive condition, SNS condition, and control conditions are reduced from the original  $n$  scores reported in Table 8 because many students did not follow through with the behavioral task and halted their participation after filling out the questionnaires. Therefore, the game addictive, SNS addictive, and control conditions comprised of 15, 12, and 25 students, respectively. The measures inputted in the analysis were the number of correct answers and the omission error. The SNS addictive condition performed significantly worse than the internet gaming addictive and the control conditions. The SNS addictive condition scored less correct answers in comparison to the two other groups in both the classic go/no-go and emotional go/no-go tasks,  $F(2,50)=4.198, p<.05$ ;  $F(2,50)=4.366, p<.05$ . Also, the SNS addictive condition scored more omission errors in comparison to the two other conditions in both tasks,  $F(2,50)=5.238, p<.01$ ;  $F(2,50)=4.441, p<.05$ .

Table 11. *Group characteristics of Go/No-Go task*

	Game Addictive ( $n=16$ )	SNS Addictive ( $n=12$ )	Control Condition ( $n=25$ )	$F$	LSD
C.OK	55.13 (7.00)	37.15 (20.58)	51.09 (15.64)	4.198*	1=3>2
C.OMS	2.13 (6.69)	19.67 (21.74)	6.04 (14.46)	5.238**	2>3=1
M.OK	192.44 (41.49)	141.42 (73.51)	192.28 (46.82)	4.366*	1=3>2
M.OMS	31.25 (43.13)	86.42 (83.25)	30.76 (48.58)	4.441*	2>1=3

C.OK = classic task correct answer, C.OMS = classic task omission error; M.OK = emotional task correct answer, M.OMS = emotional task omission error

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

## Comparison of Happy and Sad Conditions

Table 12 summarizes the group differences for happy and sad conditions of the emotional go/no-go task. The mean value, standard deviation, and the differences of both internet gaming and SNS addictive conditions and control conditions were calculated. Results were parallel to those of table 11. The SNS addictive condition performed significantly worse than the internet gaming addictive and the control conditions. The SNS addictive condition scored less correct answers in comparison to the two other groups in both the happy and sad conditions,  $F(2,50)=4.602, p<.05$ ;  $F(2,50)=3.949, p<.05$ . Also, the SNS addictive condition scored more omission errors in comparison to the two other conditions in both happy and sad conditions,  $F(2,50)=4.535, p<.05$ ;  $F(2,50)=4.391, p<.05$ .

Table 12. *Group comparisons of happy and sad conditions*

	Game Addictive ( <i>n</i> =16)	SNS Addictive ( <i>n</i> =12)	Control Condition ( <i>n</i> =25)	<i>F</i>	LSD
H.OK	98.13 (22.36)	72.75 (38.31)	99.80 (22.02)	4.602 <sup>*</sup>	3=1>2
H.OMS	14.00 (22.48)	41.42 (43.12)	12.32 (23.73)	4.535 <sup>*</sup>	2>1=3
S.OK	94.31 (19.81)	68.67 (35.91)	93.36 (26.54)	3.949 <sup>*</sup>	1=3>2
S.OMS	17.25 (21.48)	45.00 (40.49)	17.12 (25.80)	4.391 <sup>*</sup>	2>1=3

H.OK = happy condition correct answer, H.OMS = happy condition omission error; S.OK = sad condition correct answer, S.OMS = sad condition omission error

\* $p<.05$ .

## Discussion

In Study 2, emotion regulation difficulties for those with internet gaming or SNS addictive tendencies were further explored in continuity to Study 1. First, the specific emotion regulation strategies of students with addictive tendencies toward internet gaming and SNS were explored. The CES-D measure was included for depressive symptomatology. Secondly, emotion regulation difficulties of students with behavioral addictive tendencies were identified through the behavioral go/no-go task.

Results showed a significant difference in male and female students and their experience with addictive behavioral patterns. These results were more robust than that of Study 1. Firstly, male students were more vulnerable to internet gaming addiction and female students were more vulnerable to SNS addiction. Furthermore, female students reported an overall greater correlation to support-seeking emotion regulation strategy, which is supported by previous literature that reveals female students' tendency toward social supportive coping behaviors (Kim, Kim, & Kim, 2010). Females also reported higher CES-D scores, which supports robust literature (e.g.: Thayer et al., 2003) of the correlation between females and a greater tendency toward depressive symptomatology. High CES-D scores were found to be negatively correlated with active emotion regulation strategy which is consistent with previous literature in which active emotion regulation strategy was found to be positively related to self-esteem, extraversion, emotional support, and optimism (Min et al., 2000). CES-D scores were also positively correlated with SNS addictive scores, which parallels to Study 1's finding of higher SNS scores being related to greater emotion regulation difficulties regardless to the experience of

daily stress.

When further perusing into the relationship of emotion regulation strategies and internet gaming and SNS, gender played a significant role in the relationship. When controlling for gender, there were no significant differences among the three conditions in relation to emotion regulation strategies. This highlights the importance of the role of gender in particular for support-seeking regulation strategy. This partially supports the second prediction of the hypothesis of students with SNS addictive tendencies leaning toward support-seeking emotion regulation strategies. Although there was a clear gender main effect in which females reported high preferences toward support-seeking emotion regulation strategies, the relationship to SNS can be made because of the heavy concentration of female students in the SNS addictive condition.

However, higher scores on the internet gaming measure did not correlate with avoidant and distractive emotion regulation strategies as predicted. Instead, there was a negative directionality, albeit not significant, in which students who reported low scores on the internet gaming measure had a greater tendency toward support-seeking emotion regulation strategy. An explanation for this direction may be supported by Kuss and Griffiths' (2011) finding in which key personality traits and characteristics that have been found to be related to internet gaming addiction are introversion and neuroticism. Furthermore, avoidant and schizoid interpersonal tendencies (Allison et al., 2006), along with loneliness (Caplan, Williams, & Yee, 2009) was reported to be significantly related to internet gaming addiction. We can thus suggest that students with low tendency toward internet gaming addiction hold opposite personality traits of extroversion, and social-seeking interpersonal tendencies.



The behavioral tasks were included in study 2 in order to further identify emotion regulation difficulties in those susceptible to internet gaming and SNS addictions. The classic go/no-go task was included as a standard to compare to the emotional go/no-go task. If there were no significant differences in the control and addictive groups in the classic go/no-go task, one could conclude that significant differences in the emotional go/no-go task reflect difficulties in emotional suppression (Schulz et al., 2007). However, for the internet gaming condition, there were no significant differences for both the classic and emotional go/no-go tasks in relation to the control condition.

For the SNS condition, there were significant differences for both the classic and emotional go/no-go tasks on the number of correct answers and number of omission errors. The addictive group scored less correct answers and more omission errors in comparison to the control condition. These results were repeated when the emotional go/no-go task was divided into the happy and sad conditions. Because this difference was found in the classic go/no-go task as well, one cannot conclude that this is a clear reflection of emotion regulation difficulties. Rather, a more overarching cognitive difficulty of inhibition function can explain the poorer performance of the students in the SNS addictive condition. This overarching inhibition difficulty may be related to the greater depressive symptomatology found in the female students with SNS addictive tendencies. This is supported by previous literature in which difficulties in executive function have been found in depressed participants (Channon & Green, 1999), as depressed participants reported greater difficulties on the go/no-go task due to difficulties in response inhibition (Kaiser et al., 2003).

## General Discussion

Behavioral addiction has been a rising issue and interest in recent psychology literature and empirical studies. It is no longer a mere sociocultural observation, but a rampant and increasingly heightening issue that is in need of greater attention and scientific investigation. This study touched upon this recent phenomenon, particularly of internet gaming and SNS addictive tendencies among the college population. In order to explore longitudinal effects, the retrospective perceived parental role was hypothesized to have a significant predictive value in leading to behavioral addiction. It was predicted that students with internet gaming and SNS addictive tendencies would report less parental care and greater parental overprotection throughout their childhood. Furthermore, the relationship between behavioral addiction and emotion regulation was explored in which emotion regulation difficulties were predicted to be correlated to addictive tendencies with addictive use of internet gaming and SNS implicating different emotion regulation strategies.

Study 1 compared the parental role and emotion regulation difficulties in students with internet gaming and SNS addictive tendencies. Students with internet gaming addictive tendencies reported a correlation with all subcategories of retrospective perceived parental behavior. The predicted pattern was further observed in the internet gaming addictive group in which less retrospective parental care, greater parental overprotection and less current parental attachment was reported. Furthermore, there was no significant difference in the experiencing of daily stress in comparison to the SNS addictive and control conditions as well as

no significant emotion regulation difficulties.

For the SNS addictive condition, the same pattern was observed as the internet gaming addictive condition in the retrospective and current maternal relationship. However, there was an interestingly different pattern for the paternal relationship. Retrospective paternal care appeared to have opposite directionality for the behavioral addictions, in which unlike internet gaming, greater paternal care while growing up was related to higher scores of SNS addictive tendencies. This opposite directionality was suggested to be possibly due to a contrast with present relational needs, further highlighted by gender differences, which is necessary and valuable to peruse in future studies. Furthermore, those with SNS addictive tendencies reported to struggle with emotion regulation difficulties more so than their internet gaming counterparts.

This comparison between the internet gaming and SNS addictive conditions sheds light upon the different characteristics. This study compared the longitudinal characteristics of internet gaming and SNS in relation to the students' reports of retrospective parental role as well as current differences of emotion regulation difficulties. The different pattern for the SNS addictive condition highlighted the role of the father as well as emotion regulation difficulties that may tap into the loneliness characteristic of those with SNS addictive tendencies.

Study 2 explored the relationship among emotion regulation strategies coined by Min (Min et al., 2000) and those vulnerable to internet gaming and SNS addictions. Those with SNS addictive tendencies reported support-seeking emotion regulation strategies. The SNS addictive group's tendency to use support-seeking emotion regulation strategies supports the hypothesis and previous literature of students, particularly Korean students leaning toward SNS due to a desire for social

support (Kim et al., 2011; Kuss & Griffiths, 2011). Support-seeking emotion regulation strategy was found to be effective in regulating sadness (Min et al., 2000), which supports the finding that depressive symptomatology showed a parallel pattern of being more prevalent in women and with those with SNS addictive tendencies.

However, unlike the hypothesis, the internet gaming addictive group did not show distractive/avoidant emotion regulation strategies. This could be explained by previous literature of internet gaming addiction being correlated to personality traits such as loneliness and introversion (Caplan et al., 2009; Kuss & Griffiths, 2011) and social inhibition (Porter et al., 2010). De Leo and Wulfert (2012) went to the extent to define problematic internet use as an internalizing problem, in which those who experience social interaction anxiety, depression, as well as family conflict show a greater propensity for internet gaming addiction. Linking internet gaming as an internal issue may explain why the avoidant/distractive emotion regulation strategy, which is a more cognitive behavioral approach, did not correlate with those in the internet gaming addictive group.

Behavioral task results did not support the hypothesis of this study, in which emotion regulation difficulties was not found in the internet gaming addictive group. This could be due to the mere fact that those in the internet gaming addictive group are highly adept to computer tasks and their proficiency may have diminished attempts to measure emotion regulation difficulties. The task may have been too easy for the internet gaming addictive group. Furthermore, although the SNS addictive group did show difficulties in the emotional go/no-go task, they also resulted in significant differences in the classic go/no-go task in

comparison to their control counterparts, which could reflect an overall behavioral inhibition deficit that is not unique to emotional regulation. These results are contrary to Kim's (2010) results in which the gambling-vulnerable group of a college population exclusively showed significant difficulty in the emotional go/no-go task in comparison to the classic go/no-go task. This may suggest an overall behavioral inhibition difficulty in SNS addictive female students with a potential relation to depression that is valuable for further studies.

Therefore, when viewing the results for Study 1 and Study 2, the following can be concluded. Firstly, males are more vulnerable to internet gaming addictive tendencies and females to SNS addictive tendencies. Secondly, internet gaming and SNS have potentially different pathways. Internet gaming addictive tendencies showed to be highly related to both the retrospective and current parental role in the same manner for both parents. On the other hand, students with SNS addictive tendencies showed a unique relationship with the paternal role, which is worthy of future investigation. Thirdly, those with SNS addictive tendencies struggle with greater emotion regulation difficulties than their internet gaming counterparts. In particular, SNS addictive tendencies are linked to support-seeking emotion regulation with the interactive effect of gender. On the other hand, internet gaming addictive tendencies did not show any correlation to an emotion regulation strategy. Fourthly, those with SNS addictive tendencies struggle with an overarching difficulty in behavioral and cognitive inhibition that is not only limited to emotion regulation difficulties.

The significance of the current study is as follows. Firstly, this study was the first study to explore and compare internet gaming and SNS addictive tendencies in the college population with a developmental perspective. The

minimal cases ( $n=5$  for study 1 and  $n=4$  for study 2) of students with addictive tendencies toward both internet gaming and SNS also provide insight into the suggestion that students mostly take a single route of addictive behavior and although the mediums may be similar, rarely do internet gaming and SNS addictive tendencies overlap or co-occur. Furthermore, the greater relevance of the retrospective parental role with internet gaming suggests a causal or attributional characteristic of the disorder as well as reflecting the importance of parental role throughout childhood.

Secondly, this study highlighted gender differences in the characteristics of behavioral addiction. Males being more vulnerable to internet gaming addictive tendencies and females being more vulnerable to SNS addictive tendencies is consistent with previous literature (Ju & Jwa, 2011; Kuss & Griffiths, 2011; Kuss & Griffiths, 2012; Pi, 2012). Further, differing relationships to the retrospective perceived parental role as well as current parental relationship were not statistically found, but were suggested. Exploring a qualitatively significant role of the Korean father on the different development of sons and daughters supports Lee, Kim, Lee, & Chin's meta-analytic study (2012) of the differential effect, which further surfaces a potential cultural significance. Maller et al. (2010) found that in an American population, the quality of the father-child relationship was especially significant for the development and emotion regulation processes for sons as compared to daughters, which has been supported by a number of literature (e.g.: Lamb, 1987; Starrels, 1994). This potential difference in the paternal role for the Korean population is worthy of further exploration, especially as currently the more physically and emotionally involved role of the father is becoming more socioculturally pertinent and important (Lee et al., 2012).

Thirdly, specific emotion regulation strategies of those with behavioral addictive tendencies were explored. None of the emotion regulation strategies were related to internet gaming addictive tendencies. Support-seeking emotion regulation strategy was a significant strategy for SNS addictive tendencies. This stands upon Min's (2000) initial analysis of the support-seeking emotion regulation strategy, with its positive relationship toward extroversion, emotional support and emotional expressiveness. These results shed light upon the underlying needs of those who fall into SNS addictive tendencies, implying future directions in treatment.

The limitations of the current study are as follows. First, because study 1 measured the retrospective parental relationship, there are limitations to the accuracy and validity of students' memories and self-reports. Furthermore, current relationships and current stressors could influence students' reports and views on their retrospective parental relationship, thus influencing the consequential data.

Secondly, the population of this study was relatively homogenous, as data was gathered from Seoul National University college students taking psychology courses. This severely limited the range of college students, as different majors may exude significantly different characteristics and possibly even greater difficulties with internet gaming and SNS behavioral patterns and addictive tendencies. Thirdly, because participants were from a nonclinical sample the number of students that comprised in the addictive group for both internet gaming and SNS was relatively small, which limited a more thorough and valid exploration of the characteristics of those with internet gaming and SNS addictive tendencies. It is therefore difficult to generalize the current results to all college students. Follow-up studies could investigate with a more diverse, and larger number of

students to have clear cells of females addicted to SNS and internet gaming and males addicted to SNS and internet gaming in fully exploring their differences. This could also contribute unto the reason why males are more concentrated upon internet gaming and females more toward SNS.

Limitations notwithstanding, this study directs a population that is experiencing physical, psychological, and financial independence in entering adulthood with a new environment and various relationships. With vast changes within and surrounding the students, it is therefore valuable to understand how the retrospective parental role can be manifested in current behavioral patterns. Furthermore, this study expands upon the growing field of behavioral addictive tendencies and the crucial role of emotion regulation and specific strategies in relation to internet gaming and SNS addictive tendencies. The specific emotion regulation strategy, particularly support-seeking strategy imply the underlying needs and desires of students, which may lead to more effective directions in treatment. Furthermore, the gender differences in the pathways toward addictive tendencies are a significant discovery that calls for further scientific study and deeper investigation.



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# Appendix

Appendix A. Parental Bonding Instrument – Korean Version (PBI)

Appendix B. Revised Life Stress Scale for College Students

Appendix C. Difficulties in Emotion Regulation Scale – Korean Version (KDERS)

Appendix D. Internet Game Engagement Level

Appendix E. SNS Addiction Tendency Scale

Appendix F. The Inventory of Parent and Peer Attachment-Revised (IPPA-R)

Appendix G. Emotion Regulation Strategies Checklist

Appendix H. Center for Epidemiological Studies-Depression Scale (CES-D)

## Appendix A. Parental Bonding Instrument – Korean Version

- 고등학교 시절 까지 성장하는 동안 당신의 어머니/아버지에 대한 기억을 다음 내용에 따라 가장 잘 설명하는 것에 O표 해 주십시오.

문항	전혀 안그 랬다	안 그렸 다	그렸 다	아주 그렸 다
1.나에게 따듯하고 다정하게 말해 주었다	1	2	3	4
2.내가 원하는 만큼 도와주었다.	1	2	3	4
3.내가 하고 싶었던 일을 하도록 해주었다.	1	2	3	4
4.나에게 쌀쌀하게 대한 편이었다.	1	2	3	4
5.나의 문제와 걱정을 이해하려 했다.	1	2	3	4
6.나에게 다정다감 했다.	1	2	3	4
7.나의 일은 내가 결정하도록 도와주었다.	1	2	3	4
8.나의 정신적 성장을 원하였다.	1	2	3	4
9.내가 하는 것은 무엇이든지 간섭하려 했다.	1	2	3	4
10.나의 개인 생활을 침범했다.	1	2	3	4
11.나와 함께 대화하길 즐겼다.	1	2	3	4
12.나에게 자주 미소를 보여주었다.	1	2	3	4
13.나를 어린애 취급하였다.	1	2	3	4
14.내가 필요하거나 원하는 것을 이해하는 듯 했다.	1	2	3	4
15.내가 스스로 일을 결정하도록 하였다.	1	2	3	4
16.나는 원치않은 자식이란 느낌이 들도록 하였다.	1	2	3	4
17.내가 언짢을 때 기분을 풀어주었다.	1	2	3	4
18.나와 가끔 이야기 하였다.	1	2	3	4
19.어머니에게 의존심을 갖게 만들었다.	1	2	3	4
20.어머니는 자신이 내 옆에 없으면 내가 내몸 하나 돌보지 못한다고 여겼다.	1	2	3	4
21.내가 원하는 만큼 자유를 주었다.	1	2	3	4
22.내가 원하면 되도록 밖으로 나가게 해주었다.	1	2	3	4
23.나를 과잉보호 하였다.	1	2	3	4
24.나를 칭찬해 주었다.	1	2	3	4
25.내가 좋아하는 대로 옷을 입게 하였다.	1	2	3	4

## Appendix B. Revised Life Stress Scale for College Students

- 아래에는 당신이 일상 생활에서 흔히 겪을 수 있는 여러 가지 생활 사건들이 적혀 있습니다. 각 문항들을 자세히 읽어보신 후, 각 사건이 **지난 3개월** 동안 당신에게 얼마나 자주 일어났는가를 표시해 주시기 바랍니다.

문항	전혀	조금	상당히	매우
1. 취업을 위한 준비가 계획대로 진행되지 않았다	0	1	2	3
2. 졸업 후 취직을 못할 것 같아 걱정했다.	0	1	2	3
3. 진로와 취직에 필요한 정보를 얻기 힘들었다.	0	1	2	3
4. 사회적 편견 (예: 성차) 때문에 취업이 어렵다고 생각했다.	0	1	2	3
5. 이성 친구와의 사이가 매우 악화되었다	0	1	2	3
6. 이성 친구가 나의 의견에 따라주지 않았다.	0	1	2	3
7. 이성 친구와 심하게 싸웠다	0	1	2	3
8. 이성 친구와 헤어졌다.	0	1	2	3
9. 경제적으로 부족해서 대학생활이 위축되었다.	0	1	2	3
10. 학자금 조달이 어려웠다.	0	1	2	3
11. 용돈이 부족해서 행동에 제약을 많이 받았다.	0	1	2	3
12. 경제생활이 어려워서 취미 생활을 충분히 할 수 없었다.	0	1	2	3
13. 친구들로부터 따돌림을 받았다.	0	1	2	3
14. 친구로부터 배척을 받았다.	0	1	2	3
15. 친구가 나를 무시했다.	0	1	2	3
16. 교수의 인격에 대해 실망했다.	0	1	2	3
17. 교수가 말하는 것과 행동하는 것이 달랐다.	0	1	2	3
18. 교수의 불성실한 강의 때문에 학습의욕이 저하되었다.	0	1	2	3
19. 나의 가치관이 올바른 것인지에 대해 회의에 빠졌다.	0	1	2	3
20. 왜 사는지에 대한 의문 때문에 방황했다.	0	1	2	3
21. 내가 중요하다고 생각하는 가치를 실천하지 못했다.	0	1	2	3
22. 공부해야 할 과제의 분량이 너무 많았다.	0	1	2	3
23. 노력한 만큼 성적이 나오지 않았다.	0	1	2	3
24. 전공 공부가 너무 어려웠다.	0	1	2	3
25. 취업이나 진로에 필요한 적성을 알 수가 없어서 고민했다.	0	1	2	3
26. 졸업 후 진로를 결정하지 못해 방황했다.	0	1	2	3
27. 대학을 졸업하더라도 가족들의 기대만큼 성취하지 못 할 것 같은 생각이 들었다.	0	1	2	3
28. 사회적 불안정 (예: 정치, 경제 등) 때문에 직장을 얻기가 어렵지 않을까 생각했다.	0	1	2	3
29. 이성 친구와 말을 하지 않았다.	0	1	2	3

30. 이성 친구가 나 이외에 다른 사람에게 관심이 있음을 알았다.	0	1	2	3
31. 집안의 경제사정이 악화되었다.	0	1	2	3
32. 사 입고 싶은 옷을 살 돈이 없었다.	0	1	2	3
33. 경제적으로 친구들과 수준 맞추기가 힘들었다.	0	1	2	3
34. 형제나 자매와 심하게 싸웠다.	0	1	2	3
35. 친구로부터 무례한 행동을 당했다.	0	1	2	3
36. 마음에 맞는 친구를 사귄 수 없었다.	0	1	2	3
37. 교수가 나의 인격을 무시했다.	0	1	2	3
38. 교수의 강의가 산만해서 요점을 파악하기가 어려웠다.	0	1	2	3
39. 교수로부터 생활에 필요한 지혜와 안목을 얻을 수 없었다.	0	1	2	3
40. 확고한 인생관이 없어서 방황했다.	0	1	2	3
41. 이상과 현실간의 격차 때문에 갈등을 경험했다.	0	1	2	3
42. 공부해야 할 내용이 너무 많았다.	0	1	2	3
43. 성적이 나쁘다	0	1	2	3
44. 전공 공부가 적성에 맞지 않았다.	0	1	2	3
45. 중요한 시험을 잘 치지 못했다.	0	1	2	3

**Appendix C. Difficulties in Emotion Regulation Scale – Korean Version;  
KDERS**

■ 각 문항을 잘 읽고, 자신과 얼마나 일치하는지 잘 판단하여 솔직하게 답해 주십시오.

문항	전혀 그렇 지 않다	별로 그렇 지 않다	약간 그렇 다	그렇 다	매우 그렇 다
1. 나는 내 감정에 대해 분명하게 알고 있다.	1	2	3	4	5
2. 내가 어떻게 느끼는 지에 주의를 기울인다.	1	2	3	4	5
3. 나는 감정에 압도되고 감정을 통제하기 힘들다고 여긴다.	1	2	3	4	5
4. 내가 어떻게 느끼고 있는지를 알지 못한다.	1	2	3	4	5
5. 내 감정을 이해하기 어렵다.	1	2	3	4	5
6. 나는 내 감정에 주의를 기울인다.	1	2	3	4	5
7. 내가 어떻게 느끼고 있는 지를 정확하게 안다.	1	2	3	4	5
8. 내가 느끼고 있는 것에 관심이 있다.	1	2	3	4	5
9. 내가 느끼는 감정(방식)에 대해 혼란스럽다.	1	2	3	4	5
10. 나는 화가 나거나 기분이 나쁠 때, 내 감정을 알아차린다.	1	2	3	4	5
11. 나는 화가 나거나 기분이 나쁘면, 그렇게 느끼는 나 자신에게 화가 난다	1	2	3	4	5
12. 나는 화가 나거나 기분이 나쁘면, 그렇게 느끼는 것에 대해 당황하게 된다.	1	2	3	4	5
13. 나는 화가 나거나 기분이 나쁘면, 일을 끝마치기가 어렵다.	1	2	3	4	5
14. 나는 화가 나거나 기분이 나쁘면, 자제하지 못한다	1	2	3	4	5
15. 나는 화가 나거나 기분이 나쁘면, 오랫동안 내가 그런 상태로 있을 것이라고 믿는다.	1	2	3	4	5
16. 나는 화가 나거나 기분이 나쁘면, 결국에는 내가 아주 우울하게 느낄 것이라고 믿는다.	1	2	3	4	5

17. 나는 화가 나거나 기분이 나쁘면, 내 감정이 타당하고 중요하다고 믿는다.	1	2	3	4	5
18. 나는 화가 나거나 기분이 나쁘면, 다른 일들에 집중하기가 어렵다.	1	2	3	4	5
19. 나는 화가 나거나 기분이 나쁘면, 자제하지 못한다고 느낀다.	1	2	3	4	5
20. 나는 화가 나거나 기분이 나쁘더라도 여전히 일을 끝마칠 수 있다.	1	2	3	4	5
21. 나는 화가 나거나 기분이 나쁘면, 그렇게 느끼는 것에 대해 부끄럽게 느낀다.	1	2	3	4	5
22. 나는 화가 나거나 기분이 나쁘면, 궁극적으로 기분이 더 좋아지는 방법을 내가 찾아낼 수 있다고 믿는다.	1	2	3	4	5
23. 나는 화가 나거나 기분이 나쁘면, 내가 나약한 사람처럼 느껴진다.	1	2	3	4	5
24. 나는 화가 나거나 기분이 나쁘더라도, 내 행동을 통제할 수 있는 것처럼 느껴진다.	1	2	3	4	5
25. 나는 화가 나거나 기분이 나쁘면, 그렇게 느끼는 것에 대해 죄책감을 느낀다.	1	2	3	4	5
26. 나는 화가 나거나 기분이 나쁘면, 집중하기가 어렵다.	1	2	3	4	5
27. 나는 화가 나거나 기분이 나쁘면, 내 행동을 통제하기가 어렵다.	1	2	3	4	5
28. 나는 화가 나거나 기분이 나쁘면, 내 기분을 더 좋아지게 하기 위하여 내가 할 수 있는 일이 아무 것도 없다고 믿는다.	1	2	3	4	5
29. 나는 화가 나거나 기분이 나쁘면, 그렇게 느끼는 나 자신에게 짜증이 난다.	1	2	3	4	5
30. 나는 화가 나거나 기분이 나쁘면, 나 자신에 대해 기분이 매우 나빠지기 시작한다.	1	2	3	4	5
31. 나는 화가 나거나 기분이 나쁘면, 그 상태에 빠져 허우적거리는 것이 내가 할 수 있는 모든 것이라고 믿는다.	1	2	3	4	5
32. 나는 화가 나거나 기분이 나쁘면, 내 행동에 대한 통제력을 잃어버린다.	1	2	3	4	5
33. 나는 화가 나거나 기분이 나쁘면, 다른 어떤 일에 대해서도 생각하기가 어렵다.	1	2	3	4	5



34. 나는 화가 나거나 기분이 나쁘면, 내가 진정으로 느끼고 있는 것이 무엇인지 신중하게 이해한다.	1	2	3	4	5
35. 나는 화가 나거나 기분이 나쁘면, 내 기분이 더 좋아지는데 오랜 시간이 걸린다.	1	2	3	4	5
36. 나는 화가 나거나 기분이 나쁘면, 내 감정들에 의해 압도당하는 것처럼 느껴진다.	1	2	3	4	5

## Appendix D. Internet Game Engagement Level

- 각 다음 문항들이 온라인게임 이용습관에 관한 내용이며 당신에게 얼마나 해당되는지 표시해주세요.

문항	전혀 그렇 지 않다	거의 그렇 지 않다	보통 이다	가끔 그렇 다	항상 그렇 다
1. 하루라도 온라인게임을 하지 않으면 다른 일을 하기가 어렵다	1	2	3	4	5
2. 온라인게임 이외에 다른 활동은 눈에 띄게 줄어들었다.	1	2	3	4	5
3. 대부분의 이야기는 온라인게임과 관련되어 있다.	1	2	3	4	5
4. 온라인게임을 하기 위해서라면 어떤 어려움도 감수할 수 있다.	1	2	3	4	5
5. 공부나 해야 할 일을 하기 전에 먼저 온라인게임부터 하게 된다.	1	2	3	4	5
6. 온라인게임을 하느라 사회생활에 지장을 받는다.	1	2	3	4	5
7. 온라인게임을 하느라 밤을 새우거나 잠자는 시간이 줄어들었다.	1	2	3	4	5
8. 온라인게임을 하지 않는 날이 거의 없다.	1	2	3	4	5
9. 온라인게임에 중독되었다고 생각한다.	1	2	3	4	5
10. 온라인게임을 하지 않으면 안절부절 못한다.	1	2	3	4	5
11. 온라인게임을 하느라 예전보다 돈을 많이 쓰게 된다.	1	2	3	4	5
12. 나는 처음 보거나, 최근에 만들어진 온라인게임 사이트가 나오면 호기심이 생긴다.	1	2	3	4	5
13. 온라인게임과 현실이 구분되지 않을 때가 있다.	1	2	3	4	5
14. 온라인게임을 하는 동안 나는 가장 자유롭다.	1	2	3	4	5
15. 온라인게임을 하는 동안 나는 더욱 자신감이 생긴다.	1	2	3	4	5
16. 온라인게임을 하고 있을 때 마음이 편하다.	1	2	3	4	5
17. 온라인게임을 하면 스트레스가 해소되는 것 같다	1	2	3	4	5
18. 온라인게임을 적게 할수록 좋다.	1	2	3	4	5

19. 온라인게임은 인생에서 중요하지 않다.	1	2	3	4	5
20. 온라인게임을 다시는 못하게 되어도 별 상관이 없다.	1	2	3	4	5
21. 사람들이 온라인게임에 대한 이야기를 해도 관심을 갖지 않는다.	1	2	3	4	5
22. 친구들과 아이템거래를 하거나 친구 아바타 보다 내 레벨을 올리기 위해 온라인게임을 오래한다.	1	2	3	4	5
23. 온라인게임 속에서 내가 가졌던 무기나 아이템을 가질 수 있는 방법이 있다면 그 방법을 꼭 알고 싶다.	1	2	3	4	5
24. 나는 온라인게임을 할 때, 온라인 게임에 패하거나 온라인게임 머니를 잃게 되면 실제 내 돈을 잃거나 상대방에게 졌다는 느낌이 든다.	1	2	3	4	5
25. 온라인게임에서 알게 된 사람들이 현실에서 아는 사람들보다 나에게 더 잘 해준다.	1	2	3	4	5
26. 온라인게임 속의 내가 실제의 나보다 더 좋다.	1	2	3	4	5
27. 온라인게임을 통해 대리만족 및 쾌감을 느낀다.	1	2	3	4	5
28. 온라인게임을 하면서 전보다 사람들과의 관계가 좋아졌다.	1	2	3	4	5
29. 온라인게임을 하는 중 (또는 한 후) 현실과 온라인세계의 혼동을 경험한다.	1	2	3	4	5
30. 온라인게임에 관해서 내 스스로 조절이 가능하다.	1	2	3	4	5
31. 온라인게임을 통해 스트레스가 해소된다.	1	2	3	4	5

## Appendix E. SNS Addiction Tendency Scale

- SNS 사용과 관련된 다음 내용을 읽고, 나에게 해당되는 번호에 응답해 주시기 바랍니다.

문항	전혀 그렇 지 않 다	그렇 지 않다	그렇 다	매우 그렇 다
1. SNS의 지나친 사용으로 학교성적이나 업무능률이 떨어진다.	1	2	3	4
2. 수시로 SNS를 사용하다가 지적을 받은 적이 있다.	1	2	3	4
3. SNS를 너무 자주 또는 오래한다고 가족이나 친구들로부터 불평을 들은 적이 있다.	1	2	3	4
4. SNS를 사용하느라 지금 하고 있는 일(공부)에 집중이 안된 적이 있다.	1	2	3	4
5. SNS사용이 지금 하고 있는 일(공부)에 방해가 되지 않는다.	1	2	3	4
6. SNS를 사용하지 못하면 온 세상을 잃을 것 같은 생각이 든다.	1	2	3	4
7. 가족이나 친구들과 함께 있는 것보다 SNS를 사용하고 있는 것이 더 즐겁다.	1	2	3	4
8. SNS를 사용할 수 없게 된다면 견디기 힘들 것이다.	1	2	3	4
9. SNS 없으면 안절부절 못하고 초조해진다.	1	2	3	4
10. SNS를 하지 않아도 불안하지 않다.	1	2	3	4
11. SNS를 하지 않으면 하루 종일 일(공부)이 손에 잡히지 않는다.	1	2	3	4
12. SNS 사용시간을 줄이려고 해보았지만 실패한다.	1	2	3	4
13. SNS를 사용할 때 “그만해야지” 라고 생각은 하면서도 계속한다.	1	2	3	4
14. SNS 사용에 많은 시간을 보내는 것이 습관화되었다.	1	2	3	4
15. SNS사용에 많은 시간을 보내지 않는다.	1	2	3	4

## Appendix F. The Inventory of Parent and Peer Attachment-Revised (IPPA-R)

- 다음은 귀하의 아버지, 어머니 (또는 아버지, 어머니처럼 돌봐주신 분)에 대한 당신의 생각을 묻는 질문입니다. 각 문항을 읽고 아버지, 어머니에 대한 현재 당신의 느낌을 가장 잘 나타내는 곳에 O표 해주시기 바랍니다.

문항	부모	결코 그렇지 않다	드물게	가끔	자주	항상 그렇다
1. 우리 부모님은 내 감정을 존중해 준다.	부	1	2	3	4	5
	모	1	2	3	4	5
2. 우리 부모님은 부모로서의 본분을 다한다고 생각한다.	부	1	2	3	4	5
	모	1	2	3	4	5
3. 다른 분이 우리 부모였으면 좋겠다.	부	1	2	3	4	5
	모	1	2	3	4	5
4. 우리 부모님은 나를 있는 그대로 받아들여준다.	부	1	2	3	4	5
	모	1	2	3	4	5
5. 나는 걱정되는 일이 있을 때 부모님의 의견을 받아들이고 싶다.	부	1	2	3	4	5
	모	1	2	3	4	5
6. 부모님에게 내 감정을 드러내봐야 소용없다고 생각한다.	부	1	2	3	4	5
	모	1	2	3	4	5
7. 우리 부모님은 내가 어떤 일로 기분이 상했을 때 알아차리신다.	부	1	2	3	4	5
	모	1	2	3	4	5
8. 부모님과 함께 내 문제를 상의할 때 내 자신이 수치스럽고 바보같이 생각된다.	부	1	2	3	4	5
	모	1	2	3	4	5
9. 우리 부모님은 내게 너무 많은 걸 바란다.	부	1	2	3	4	5
	모	1	2	3	4	5
10. 나는 부모님과 함께 있을 때 쉽게 기분이 나빠진다.	부	1	2	3	4	5
	모	1	2	3	4	5
11. 나는 기분 나쁜 일이 있을 때 부모님이 생각하는 것보다 훨씬 더 속상해 한다.	부	1	2	3	4	5
	모	1	2	3	4	5
12. 어떤 일에 대해 상의할 때, 부모님은 내 의견을 고려해준다.	부	1	2	3	4	5
	모	1	2	3	4	5
13. 우리 부모님은 내 판단을 신뢰한다.	부	1	2	3	4	5
	모	1	2	3	4	5
14. 우리 부모님은 자신들	부	1	2	3	4	5

	나름대로의 문제가 있기 때문에 내 문제로 부모님을 귀찮게 하지 않는다.	모	1	2	3	4	5
15.	우리 부모님은 내가 내 자신을 더 잘 이해할 수 있도록 도와준다.	부	1	2	3	4	5
		모	1	2	3	4	5
16.	나는 부모님에게 나의 어려움과 근심거리에 대해 말씀 드린다.	부	1	2	3	4	5
		모	1	2	3	4	5
17.	나는 부모님에게 분노를 느낀다.	부	1	2	3	4	5
		모	1	2	3	4	5
18.	나는 부모님으로부터 별 관심을 받지 못한다.	부	1	2	3	4	5
		모	1	2	3	4	5
19.	우리 부모님은 나의 어려움을 이야기하도록 격려 해준다.	부	1	2	3	4	5
		모	1	2	3	4	5
20.	우리 부모님은 나를 이해해준다.	부	1	2	3	4	5
		모	1	2	3	4	5
21.	우리 부모님은 내가 어떤 일로 화가 났을 때 이해하려고 노력한다.	부	1	2	3	4	5
		모	1	2	3	4	5
22.	나는 우리 부모님을 신뢰한다.	부	1	2	3	4	5
		모	1	2	3	4	5
23.	우리 부모님은 내가 어떤 일을 겪는지 이해하지 못한다.	부	1	2	3	4	5
		모	1	2	3	4	5
24.	내 마음의 부담을 떨쳐 버리고 싶을 때 부모님께 의지할 수 있다.	부	1	2	3	4	5
		모	1	2	3	4	5
25.	부모님이 내게 고민거리가 있다는 걸 아신 경우, 나에게 그것에 대해 물어보신다.	부	1	2	3	4	5
		모	1	2	3	4	5

## Appendix G. Emotion Regulation Strategies Checklist

- 부정적인 정서를 느낄 때 각 문항에 해당하는 양식을 일상생활에서 얼마나 자주 사용하는지 표시해주세요.

문항	거의 사용 하지 않는 다	대부 분 사용 하지 않는 다	사용 한다	매우 자주 사용 한다
1. 기분을 나쁘게 한 상황이나 문제로부터 벗어나려고 한다	1	2	3	4
2. 가족이나 친구와 만난다	1	2	3	4
3. 누군가 나를 이해하고 위로해 주길 바란다	1	2	3	4
4. 다른 사람과 나의 느낌에 관하여 이야기한다	1	2	3	4
5. 다른 사람으로부터 도움이나 조언을 구한다	1	2	3	4
6. 관계없는 다른 일을 떠올리거나 다른 일에 집중한다	1	2	3	4
7. 문제를 해결하거나 상황을 개선하기 위한 구체적인 일을 한다	1	2	3	4
8. 상황을 개선하거나 문제를 해결하기 위한 구체적인 계획을 세운다	1	2	3	4
9. 상황 (혹은 문제)을 보다 명확히 이해하고자 한다	1	2	3	4
10. 막연히 “나아지겠지”, “어떻게든 되겠지” 라고 생각한다	1	2	3	4
11. 왜 내가 이런 기분을 느끼게 되었는지 이해하려고 노력한다	1	2	3	4
12. 마음속에서 그 문제를 완전히 지워버리려고 노력한다	1	2	3	4

## Appendix H. Center for Epidemiological Studies-Depression Scale (CES-D)

- 아래에 있는 항목들은 지난 일주일 동안의 당신의 상태에 대한 질문입니다. 각 문항마다 지난 일주일 동안 얼마나 자주 일어났었는지 답변해 주십시오.)

문항	극히 드물다 (1일 이하)	가끔 있었다 (1-2 일)	자주 있었다 (3-4 일)	대부분 그랬다 (5일 이상)
1. 평소에는 아무렇지도 않던 일들이 귀찮게 느껴졌다.	1	2	3	4
2. 입맛이 없어서 먹고 싶지 않았다	1	2	3	4
3. 주변에서 도와주어도 울적한 기분을 떨칠 수가 없었다	1	2	3	4
4. 다른 사람들만큼 능력이 있다고 느꼈다	1	2	3	4
5. 무슨 일을 하면서 정신을 집중하기가 힘들었다	1	2	3	4
6. 우울했다.	1	2	3	4
7. 하는 일마다 힘들게 느껴졌다	1	2	3	4
8. 미래에 대해 희망적으로 느꼈다	1	2	3	4
9. 내 인생은 실패라는 생각이 들었다	1	2	3	4
10. 두려움을 느꼈다	1	2	3	4
11. 잠을 잘 이루지 못하거나, 자도 잔 것 같지 않았다	1	2	3	4
12. 행복했다	1	2	3	4
13. 평소보다 말수가 줄었다.	1	2	3	4
14. 세상에 홀로 있는 듯한 외로움을 느꼈다.	1	2	3	4
15. 사람들이 나에게 친절할 것 같지 않았다	1	2	3	4
16. 생활이 즐거웠다	1	2	3	4
17. 갑자기 울음이 나왔다.	1	2	3	4
18. 슬펐다	1	2	3	4
19. 사람들이 나를 싫어하는 것 같았다	1	2	3	4
20. 도무지 무엇을 새로 시작할 기분이 나지 않았다	1	2	3	4



## 국 문 초 록

최근 인터넷의 폭발적인 사용 증가는 행동중독이라는 분야의 부상으로 이어졌다. 인터넷 사용의 이동성은 인터넷 게임과 SNS 중독의 급속한 증가를 가져왔으며, 인터넷의 높은 접근성을 가진 한국에서 그 영향력이 더 크다. 본 연구의 목적은 대학생의 인터넷 게임과 SNS 중독 경향성에 영향력을 미치는 변수들의 탐색이다. 본 연구는 지각된 과거 및 현재 부모의 역할과 정서조절 전략을 중심으로 인터넷 게임 및 SNS 중독 성향 대학생들의 특성을 탐색하였다.

연구 1에서는 대학생( $N=197$ ) 중 인터넷 게임과 SNS 중독 성향을 가진 학생들의 지각된 부모 양육 행동 (모의 돌봄과 과잉보호, 부의 돌봄과 과잉보호)과 정서조절의 어려움을 조사하였다. 인터넷 게임 중독 경향성을 보인 대학생들은 주로 남학생이었으며, 부모의 돌봄은 낮게 과잉보호는 높게 보고했으며, 현재 부모와의 애착 수준이 더 낮은 것으로 나타났다. 반면, SNS 중독 경향성을 가진 학생들은 남녀분포가 유사했고, 어머니의 돌봄과 과잉보호에 대해서는 인터넷 중독성향 집단과 동일한 양상을 보였으나, 아버지의 돌봄에 있어서는 반대 방향의 결과를 보였다.

연구 2에서는 대학생( $N=199$ ) 중에서 선발된 인터넷 게임과 SNS 중독 성향 집단의 정서조절 어려움과 전략을 설문 및 실험을 통해 탐색하였다. SNS 중독 집단은 지지추구적 정서조절 전략을 더 많이 사용하는 반면 인터넷 게임 중독 집단은 특별한 경향성을 보이지 않았다. 행동적 go/no-go 과제에서 인터넷 게임 중독 집단은 통제집단과 차이가 없었으나, SNS 중독 집단은 표준 그리고 정서적 go/no-go 과제 모두에서 통제 조건에 비해 행동 억제에 전반적 결함을 나타냈다.

본 연구에서는 인터넷 게임과 SNS 중독 경향성에서 유의미한 성차가 보고

되었고, 인터넷 게임과 SNS 중독 조건의 학생들은 부모의 역할, 정서조절에서 차별적 특성을 보임이 시사되었다. 마지막으로, 본 연구의 함의와 한계 그리고 추후 연구에 대한 제언을 논의하였다.

**주요어:** 행동중독, 인터넷 게임, SNS, 부모자녀 관계, 정서조절

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## 감사의 글

한국으로 다시 돌아오게 인도해주시고, 서울대학교에서의 생활에서 함께 해주신 하나님 감사합니다.

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