

The Influence of Media Use Characteristics on Social Relationships and School Adjustment through Adolescents' Self-Efficacy and Commitment

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Abstract

Recently, the use of media has become a daily life due to Covid-19, and education using media has expanded for teenagers. The purpose of this study is to empirically verify how media usage characteristics affect social relationships and school adaptation through the self-efficiency and immersion of teenagers at the youth education site. This study was collected and distributed questionnaires to 250 high school students in Seoul from November 14 to November 21, 2020. The results of the study were derived with a total of 249 questionnaires, excluding one missing questionnaire, and the hypothesis was verified using a Covariance Structure Analysis. Research has shown that, first, the existing, individual, and utility among the characteristics of using youth media have a significant effect on self-efficiency, respectively. Second, only entertainment among the characteristics of youth media use was found to have a significant effect on immersion. Third, immersion has a significant definition effect on school adaptation, and self-efficiency has been shown to have a definition impact on social relationships. Based on this study, we believe that it will be used as a fundamental resource for the development of youth media usage and policy direction in the age of the ever-changing Covid-19.

Keywords: *Media Use Characteristics, Self-Efficacy, Immersion, School Adaptation, Social Relationship*

1. Introduction

Due to the recent rapid changes in society, the use of media has become a common routine([16]). As a result, the value of media has been highlighted to the extent that we can not think about our life without media. Therefore, the debate about the influence of the media use on the youth who use the media continues from the past and has been a subject of social discussion([20]). The reason is that the youth period is a stage of preparation for social adaptation after becoming an adult, and it is a period of development and growth, in which knowledge must be acquired and accumulated. Therefore, a study on the use and influence of media selected and conducted on adolescents has a greater social significance than a study on the general public. Until now, most studies related to the media have emphasized only one-dimensional problems, such as the

decrease in academic achievement caused by media addiction([73]). In fact, the research on this subject itself has given us negative perceptions about the use of media itself by teenagers, but it suggests that the use of media itself has no effect on the teenagers. In particular, at a time when preparations for the Fourth Industrial Revolution were actively underway in various sectors of society, Corona-19 has been causing a huge change worldwide since February 2020. Therefore, as a result of the rapid spread of non-face-to-face culture, we have come to a time of change that we do not want. In this period when "With Covid-19" became a daily routine, the non-face-to-face society quickly spread, and the government declared "Comprehensive Plan to Strengthen Digital Communication Capabilities" in August 2020 in the era of change. The government strategically announced four major themes : expanding the online and offline infrastructure of media education, enhancing the people's ability to produce digital images, enhancing the ability to discern media information, and spreading digital citizenship of consideration and participation([40]).

In the post-corona period, the scale of non-face-to-face is increasing in everyday life according to the social distance policy. Distance education has become a general form of educational process, and it has provided an opportunity for thee-learning market to develop rapidly. The Comprehensive Plan for Strengthening Digital Media Communication Competency (2020) raised concerns that personal loneliness, isolation, and community dissolution, resulting from non-face-to-face spread and convenience, will become the factors that would further strengthen economic and social inequality among the vulnerable groups. We all worry about the social dysfunctions of digital gap and e-learning in the social class, but non-face-to-face has become an inevitable daily life in society and economy; and the importance of digital communication ability and collaboration is gradually being forced in the intelligent information society, the fourth industrial revolution. In this environment, our discussions will be needed to resolve the problem of inequality and class polarization among societal groups caused by the digital gaps. In addition, since the expansion of the digital media context and the spread of rights, participation, responsibility, and cooperation in the digital era are necessary, it is necessary to further examine and analyze the 'Comprehensive Plan for Strengthening Digital Media Communication Capacity' proposed by the government([64]). According to the government's report, the government intends to strengthen accessibility to media education, expand accessibility to the whole nation, and establish the characteristics and citizenship of digital communities. Many ministries are focusing on supporting media-based education systems. In the era of the Fourth Industrial Revolution, where the government presents a new paradigm, we need to be more interested than ever and prepare to develop digital utilization capabilities so that teenagers living in more rapid changes can face an unpredictable future.

According to the results of previous studies, the increase in the use of various media devices such as laptops and smartphones, the educational gap of parents, the gap in households, and the gap between regions are related to teenagers' ability to use media([1,37,38,48,50,59,62]). In particular, the study by Ahn Jung-im and Yoon-Kyung Seo(2014) reported that the households with relatively high economic levels had high levels of utilization in various areas such as information evaluation, media use technology, expression ability, and citizenship([1]). The government is setting the direction of the youth education field, by suggesting support for an education system utilizing media between ministries, in all policies as well as the Ministry of Education. Therefore, it is natural that the government should lead the youth who should live in the current non-face-to-face society and the uncertain future to use the media to have a positive impact on their development. Accordingly, in this paper, based on the preceding studies above, we would like to empirically verify how the media characteristics used by teenagers affect school life adaptation and social relationship through self-efficacy and immersion.

2. Theoretical Background

1) Characteristics of Using Media

The most important factors necessary for humans to create social relationships begin with self-awareness, recognition of others, and identification of relationships between the two factors([28]). These perceptions serve as the backbone of social awareness based on the use of mobile media, further establishing specific elements such as social relationships, social mobility, and social presence.

First, depending on the researcher, social presence may be used interchangeably as social presence or social presence. Short, Williams, and Christie (1976) explained that a sense of social existence is the level of feeling and presence of others while communicating with others. Biocca (1997) said that a sense of social existence is a psychological and subjective experience that a person feels through the cognitive process. Ha-Sung Hwang (2007) argued that social presence is a feeling when you are with others, not yourself. He said that a sense of social existence is an essential concept that refers to the psychological experience that individuals experience among social interactions in which various factors are matched. According to the results of research on characteristics such as trust, intimacy, and likability, the social mobility as the next factor indicates that the mobile media is used in various ranges of everyday life depending on the purpose of communication, social relationships of actual situation, and the technical characteristics of media.

According to the results of studying the relationships between social relationships and text messages created through face-to-face society, the new relationship is first created by direct encounters in the form of "face to face", but to strengthen the relationship, the number of text messages used by smartphones increases. Since text messages maintain social relationships and connect them directly, they are said to be slow in forming relationships, but have a great effect on building bonds and intimacy. Thus, text messaging users have the same opinion and context as Wellman and Frank (2001), who argued that among the social relationships formed based on media, the users prefer the support generated in the socially accessible groups([61]).

Also, in "The Mode of Information (1990)", Poster said that the development and spread of electronic media information and information technology greatly influences people's lifestyles by changing the "connections of social relations" in the general form. McLuhan (1998) explained that the use of media became meaningful in the presence of all elements of social relationships, and became a channel for perceptual and thoughtful communication of human relations to greatly influence the creation of a new environment in social relations. Ledbetter (2008) then argued that cell phones are tools that represent the individuality of users due to changes in the way and environment of communication, the phones help maintain the unique interaction of personal communication by forming social relationships, and the phones have become a communication tool that connects social relations very actively with the role of mediating social ties.

2) Self-efficacy

Self-esteem, as an inner psychological variable, is one of the variables that predict the sense of community. Self-esteem means how much individuals perceive themselves positively([53,69]). It was defined as a person's internal variable that influences a person's growth and adaptation and maintaining a healthy mind. Many related research results reported positive correlation between community consciousness and self-esteem. Among them, according to the results of related research on adolescents, it is known that adolescents with a high sense of self-esteem positively evaluate themselves and positively act in daily life, and based on this, they maintain good human relationships([33]). According to the results of researching relatively young children, it is necessary to first improve the children's self-esteem in order to develop community consciousness and increase their sense of belonging, leading to solve their loneliness([80,81]). Also, according to the study on adolescents by Jeong-Hyun Choi(2019), the sense of self-esteem in the past has a statistically meaningful positive effect

on the sense of community in the future depending on the temporal causality. He clearly demonstrated the influence of self-esteem in community consciousness using a research design of temporal causality. Self-efficacy means to believe in the ability to plan and practice actions to achieve the goals set by oneself and to implement them according to planned activities([3]), and we need to pay attention to self-efficacy because individuals can use their ability to continue their choices and efforts by hoping for positive results and setting goals while performing certain tasks. Therefore, individuals are able to derive their own effective ways to help them use their abilities by feeling self-efficacy([2,4,27]). Hyun-Jin Kwon et al. (2015) insisted that the self-efficacy can be defined as 'the ability to result in success and the individual's belief by performing a certain task, insisted that the self-efficacy can influence the determination of individual behavior, and insisted that the higher a person's sense of self-efficacy the more complete the task result is. On the other hand, it has been studied that people who have low self-efficacy have an attitude of having difficulty with a given task, devaluing their abilities, and giving up easily; and that the more self-efficacy people have, the more willing they are to understand and continue to challenge, even if they are given difficult tasks([3,4]).

Here, according to the research results of adolescents' self-efficacy, when the adolescents have high self-efficacy, high self-efficacy acts as a static factor leading to inner motivation, achievement goal, self-esteem, and high academic achievement([5,32,39,56,77]). As such, it is known that research on students' self-efficacy plays a role as a predictive measure that informs adolescents' learning attitude and level of academic achievement. Therefore, students' self-efficacy was studied as one of the important influencing variables in studies related to pedagogy or academic achievement. In recent years, the application field of self-efficacy is expanding to the media as well, and 'Internet self-efficacy' is sometimes defined as faith or belief in one's ability to use the Internet, and it is also used as a predictor variable to inform the information gap between people. Broos and Roe (2006) studied whether two factors (i.e., social and economic factors such as adolescent parents' education level and adolescent venereal diseases and psychological factors such as self-efficacy of computer and Internet use) were relevant between adolescents' information acquisition gaps. And they explained in their research that relative psychological factors rather than social and economic factors explain the gap in information acquisition among adolescents better.

Furthermore, in the case of university students, Rains (2008), who has studied the causal relationship between Internet self-efficacy and secondary digital divide, concluded that the higher the self-efficacy of the Internet, the higher the ability of students to use of the Internet. Here, the secondary information gap refers to the time duration of Internet use, the level of use, and degree of application of learning to job. In addition, Hyun-Jin Kwon et al. (2015) found, in their study result, that the influence factor of secondary information gap is the Internet self-efficacy([41]). Since, the self-efficacy also affects the academic achievement of the generally known curriculum ([82]), and acts as a positive factor in the overall areas such as adaptation to school life ([35]), researches have been continuously conducted to increase the self-efficacy of learners in actual school conditions ([36,65]).

In several previous studies, it was found that self-efficacy is the mediating factor that connects adolescents' personal ability and school adaptation ([12,30,70]), and the previous studies have shown that adolescents with high self-efficacy adjust well in school and perform academically successfully by examining the relationship between school adaptation and self-efficacy ([12,14]). According to the results of more detailed previous researches, high self-efficacy of adolescents led to good academic attitude([10]), and their academic performance was high because academic motivation was clear([5,70]), and it was found that they maintained good relationship with teachers as well as friends at school ([52]).

In summary, if individual youths themselves have a belief in their abilities, it can be assumed that they achieve their goals better in the academic and relational areas required in the learning process of study ([24]).

According to the results of previous studies, the higher the level of executive function, the more likely the person is to take charge of the task and successfully complete the task([78]), and the deficiencies in executive function are related to the low academic self-efficacy ([17]), and the high executive function of adolescents is related to the high self-efficacy([49]).

3) Flow

The term 'flow' was first defined by Csikszentmihalyi (1997), and people referred to the best emotions, the happiest psychological states, and the most delightful experience in their lives as 'flow experiences'. According to the quality of his subjective experience, he said, 'The opposite concept of work is not play. By discussing people's inner rewards, he brought out the concept to flow ([54]).

Hwi-Soon Yang and Yoo-Ri Lee(2008) said that when a person is immersed time is suspended, and that "immersion" works as a driving force necessary to keep concentrating on a series of activities they like. He said that when people are immersed in personal work or behavior, their level of ability is newly improved, and at the same time, people feel joy. Therefore, in this paper, we will select and examine 'immersion' based on prior research results.

4) School Adaptation

Adaptation to school in adolescents means the overall growth of social development, such as physical, cognitive, and emotional; it ultimately affects their development throughout their life. Adolescents, if well adapted to school, like to feel comfortable in school and consider school life as part of their growth process ([42]). The extrinsic behavior or intrinsic behavior of students to complete their assignments at school or to adapt to their psychological and physical environments is called school adaptation ([66]). Since the school is a place where teenagers spend the most of their time a day, it is a place where they learn social life in advance to grow into adults, and the functional meaning of the school is very important ([76]). The process of allowing adolescents to adapt and become harmonious members in schools in various environments is sometimes defined as the school adaptation process. Early studies focused on students' academic achievement, but expanded over time a concept including both behavioral and socio-emotional growth ([7]).

A number of researchers have studied teenagers' school adaptation, including learning activities or friendships, revealing that teenagers who have adapted well to school are generally satisfied with their lives and have a positive attitude even after they grow up([19,75]). In this respect, school adaptation means that students focus and participate in the school's environment, including successful academic achievement ([43]), and it means that students are in harmony with the school and act, by keeping well the orders, rules, and the relationships between their friends and teachers in the school.

In addition, students' adaptation to school includes self-feeling of satisfaction and comfort in the process of adjusting to school life ([58]). Kyung-Ho Kim (2015) defined school adaptation as a state in which students make good social relations with their friends, actively engage in learning activities, feel the sense of belonging of members, and healthily participate in school life. Sun-Young Oh and Soon Song (2012) defined it as the meaning of maintaining a student's ability to form a harmonious relationship with the school environment or with others, and to play an independent role most actively and smoothly. In addition, Bon-young Koo (2012) defined school adaptation as a state in which adolescents form good relationships with others, such as teachers and friends, maintain school order, and actively participate in the learning duties of students in the course of school life.

Gyu-Min Lee et al. (2010) summarized prior studies that had discussed the experience of making school adaptation, and summarized that the concepts commonly included in school adaptation are study, friends,

teachers, and life. Furthermore, they investigated that the sub-concepts of school adaptation by middle school students included school work (academic value, academic ability), school teachers (likes and closeness to teachers), school friends (interaction, friendship), school life (compliance with school rules and order, and satisfaction in-school)([47]). Jae-eun Jeong (2020) described school adaptation as three of the following: First, focusing on academic achievement and class time through active participation in school life, and second, maintaining good relationships with teachers and friends in school through harmonious interpersonal relationships, and third, observing order and rules by following school rules. He explained that he felt comfortable and stable in himself.

In the study, Eun-Joo Heo and In-Su Oh (2014) found that adolescents should undergo the process of changing their environment to achieve their goals, controlling their behavior in order to adapt to life with others in school, and achieving a balance between the individual and the school environment. In the previous studies, the concept of school adaptation was widely organized and viewed as school life, academic performance ability, academic achievement ([72]), and in the Korean Children and Youth Panel Survey (2015), the concept of school adaptation was divided into four categories: relationship with teachers, friendship, compliance with school rules, and learning activities.

5) Social Network

Social network means the flow of resources generated in the relationship between people. Therefore, it becomes a means to transform resources into goods called capital, by conceptualizing social capital as a social network. Users of social network can obtain additional resources and influence each other's actions, by using the resources of social ties directly or indirectly by utilizing the ties and networks in social relations ([54]).

From an organizational point of view, the concept of social networks is defined as an access by a person, being located in a single structure of a social network, who makes use of that location in order to gain the resources he wants ([8]). Individuals as members of an organization can simultaneously belong to various network structures by forming relationships with other members for various purposes and reasons.

Using the network structure, people can ask others for their opinions about the difficulties that arise during their work, ask for advice, sometimes engage in private activities with members who are more intimate, and sometimes keep in social distances with other members.

3. Research Method

1) Sample Design and Measurement Tools

We conducted a study on high school students in the Seoul area to find out the correlation of the impact of teenagers' media use on social relationships and school adaptation. The data collection period was from November 14 to November 21, 2020. The researcher visited high school in Seoul and explained the purpose of the study on the use of youth media and the contents of the questionnaire and obtained consent. Then, a survey was conducted on 250 high school students.

Finally, 250 copies of questionnaires were retrieved. One of the retrieved questionnaires was excluded because it was deemed not valuable as statistical data, either because the records were omitted or the centralization tended to be noticeable. Therefore, a final statistical analysis was conducted using 249 copies of questionnaires. As we've seen before in this study, 'to find out the impact of media use on social relationships and school adaptation' and 'to fit the purpose of our work', we modified and constructed the evaluation items used in the previous studies on 'the impact of teenagers' media use on social relationships and school adaptation'. The items using the 7-point Likert scale were constructed as follows.

Table 1. List of measurement items

| Variables | Measurement items | References |
|---------------|---|------------|
| Existence | 1. I have felt like meeting and talking to the other party while using the media. | [53,61] |
| | 2. I once felt that I was in the same place with the other party while using the media. | |
| | 3. I once felt that I was in the same space with the other party while using the media. | |
| | 4. I felt like the other party was close to me while I was using the media. | |
| Mobility | 1. Because I use the media, I am free from the constraints of a specific location or place, so I tend to move more. | [53,61] |
| | 2. Because I use the media, I don't feel anxious or nervous when I go to a strange place. | |
| | 3. Because I use media, it seems that one place can have the meaning of several places. | |
| | 4. When I use the media, I tend to be provided with current information. | |
| Relationship | 1. While using the media, I have more contact with my acquaintances. | [7, 11] |
| | 2. While using the media. it became easier for me to establish ties with acquaintances. | |
| | 3. It has become easier for me to ask for help or information from my acquaintances while using the media. | |
| | 4. As I use the media, the number of meetings I actually meet has increased. | |
| Individuality | 1. I think I get customized information while using the media. | [53,61] |
| | 2. I think I get necessary information while using the media. | |
| | 3. I think I am provided with information that meets my purpose while using the media. | |
| | 4. I feel like I'm being given information that fits my purpose while using the media. | |
| Entertainment | 1. Media tends to give me fun. | [61] |
| | 2. The media tends to arouse interest in me. | |
| | 3. The media tends to provide me with a change of mood. | |
| | 4. The media tends to provide me with a break. | |
| Usefulness | 1. Using the media provides me with information I need. | [13] |
| | 2. Using the media tends to provide me with information that is advantageous to me. | |
| | 3. The use of media tends to provide me with convenience in using information. | |
| | 4. The use of media tends to help me make the best decisions. | |
| Self-efficacy | 1. I tend to believe in myself. | [31, 34] |
| | 2. I don't give up easily. | |
| | 3. I can be confident about my ability. | |

| | | |
|---------------------|--|----------|
| | 4. I have the ability to deal with the problems that occurred in my life. | |
| Flow | 1. While using the media, I tend to be totally into it. | [15, 51] |
| | 2. When using media, I tend to concentrate for a longer time than I expected. | |
| | 3. In order not to miss the information provided by the media, I tend to examine the relevant information carefully. | |
| School adaptation | 1. I am good at adapting to school rules and regulations. | [31, 71] |
| | 2. I'm interested in school work, so it's easy to follow. | |
| | 3. I think I get along well with my friends and teachers at school. | |
| Social relationship | 1. I want to be friends with my school friends for a long time. | [7, 11] |
| | 2. I feel comfortable with my school friends. | |
| | 3. I tend to honestly talk about each other's concerns with my schoolmates. | |

2) Analysis Method

In this study, in order to analyze the causal relationship between the variables we have presented, we used 'a covariance structure analysis' devised to analyze complex causal relationships, instead of individually verifying each hypothesis. We used SPSS and AMOS as tools to analyze the causal relationship between variables.

3) Building up Hypothesis

3.1 Relationship Between Characteristics of Media Usage and Self-efficacy

Recently, due to the spread of the infection of the new flu, Corona-19, students are experiencing learning activities that they have never had before. Online classes, which were considered part of private education, have become an inevitable necessity in public education. Adolescents continue their learning activities by dividing time and conducting school classes and remote classes. As a result, compared to last year, the use of digital textbooks this year has exploded more than three times. Therefore, since the role of supervising teachers in remote classes has been reduced compared to face-to-face education, self-efficacy, which is the expectation and belief that 'they can supervise themselves, believe in themselves, and produce successful learning results,' has become more important to young people. Chang-Hyun Jin and Hyun-Chul Yeo(2011), who studied social media, emphasized that self-efficacy is a decisive factor in acceptance of information based on social media.

In addition, Sang-Ho Park (2009), who studied the motivation in media usage, derived a result in his study that Internet self-efficacy increases when the motivation for using media is clear. Therefore, in this paper, we try to establish the following hypothesis based on this, and we will make the following hypotheses based on this study.

Hypothesis 1: The characteristics of media use will have a positive effect on self-efficacy.

Hypothesis 1-1: Among the characteristics of media use, sense of presence will have a positive (+) effect on self-efficacy.

Hypothesis 1-2: Among the characteristics of media use, sense of mobility will have

a positive (+) effect on self-efficacy.

Hypothesis 1-3: Among the characteristics of media use, the sense of relationships will have a positive (+) effect on self-efficacy.

Hypothesis 1-4: Among the characteristics of media use, sense of individuality will have a positive (+) effect on self-efficacy.

Hypothesis 1-5: Among the characteristics of media use, sense of entertainment will have a positive (+) effect on self-efficacy.

Hypothesis 1-6: Among the characteristics of media use, sense of usefulness will have a positive (+) effect on self-efficacy.

3.2 Relationship Between Characteristics of Media Usage and its Immersion

The research on media use conducted on adolescents was mainly focused on highlighting the negative aspects. Especially, many studies on the use of media have shown negative results, such as that when adolescents fall into the media due to Internet games or entertainment elements, they cause negative immersion and interfere with learning activities. On the other hand, recent studies have also emphasized the positive aspects of research results on media use and immersion of adolescents. For example, Jung-Kwon Lee and Young Choi(2015) explained that the social interactions between friends, tools to express their identity, pursuit of information to address curiosity, and finally entertainment and fun are the motivators for teenagers to use the media. According to these results, it has been shown that students experience concentrated and immersed in media use. Although there is a negative problem of media addiction when adolescents are excessively immersed in media, in this study we only want to deal with positive immersion such as learning, before adolescents face the negative results such as media addiction. Therefore, based on this, we want to make the following hypotheses.

Hypothesis 2: The characteristics of media use will have a positive effect on immersion.

Hypothesis 2-1: Among the characteristics of media use, sense of presence will have a positive (+) effect on immersion.

Hypothesis 2-2: Among the characteristics of media use, sense of mobility will have a positive (+) effect on immersion.

Hypothesis 2-3: Among the characteristics of media use, sense of relationship will have a positive (+) effect on immersion.

Hypothesis 2-4: Among the characteristics of media use, sense of individuality will have a positive (+) effect on immersion.

Hypothesis 2-5: Among the characteristics of media use, sense of entertainment will have a positive (+) effect on immersion.

Hypothesis 2-6: Among the characteristics of media use, sense of usefulness will have a positive (+) effect on immersion.

3.3 Relationships among Self-efficacy, School adaptation, and Social Relationships

As explained earlier in Media Use Characteristics and Self-Efficacy, self-efficacy refers to one's own expectations and beliefs you think you can achieve goals. It is expected that adolescents who have high self-efficacy are more likely to adapt to school life and to form social relationships with friends or teachers. In addition, Jung-hee Ha and Han-Ik Cho (2006), who had studied the relationships between self-efficacy and school adjustment, explained in detail that there is a positive correlation between the two factors. Yoon-Jung Jung and Sun-Ah Lim (2013), who have been conducting research relatively recently, have drawn the results of their study that many researchers have found that students with high self-efficacy can adapt to school without difficulty. Therefore, based on this, we would like to establish the following hypothesis.

Hypothesis 3: Self-efficacy will have a positive effect on school adaptation and social relationships.

Hypothesis 3-1: Self-efficacy will have a positive effect on school adaptation.

Hypothesis 3-2: Self-efficacy will have a positive effect on social relationships.

3.4 The relationship Among Immersion, School Adaptation, and Social Relationships

Immersion refers to a state in which one feels joy or fun by concentrating on something, without recognizing the flow of time. Therefore, adolescents who are immersed in their work using the media can feel joy, fun, and interest in learning or school life, so it is expected for adolescents to have a good influence on social relationships with friends or acquaintances. In addition, Sook-Jung Lee (2011) has produced research results that adolescents who are immersed in learning can form a sense of self-efficacy well. Therefore, based on this, we will establish the following hypothesis.

Hypothesis 4: Immersion will have a positive effect on school adaptation and social relationships.

Hypothesis 4-1: Immersion will have a positive effect on school adaptation.

Hypothesis 4-2: Immersion will have a positive effect on social relationships.

4. Analysis Results

1) Characteristics of Samples

The demographic characteristics of the samples we used to analyze the media use in this study are as follows: There were 61 males (24.5%) and 188 females (75.5%) by gender. In addition, we found that the two most popular media used by teenagers were the YouTube with 188 people (75.5%) and the TikTok with 61 people (24.5%). In addition, 24 people (9.6%) used the media for less than a year, 166 people (66.7%) used the media for more than a year, less than two years; and 16 people (6.4%) used the media for more than 2 years, less than 3 years; and 43 people (17.3%) over 3 years.

2) Reliability and validity of the measurement items

First, in order to select the most used criterion for determining reliability, we checked whether the value of Cronbach's alpha was more than 0.7 and the value of CR (composite reliability) was more than 0.7. As a result of our measurements, there were not many items that hindered the reliability. Next, we can identify the concentration feasibility of the measurement variables using the t-values of the CFA analysis, and we confirmed that all were significant. In addition, we believe that discriminant validity is secured if the minimum value of the average variance extracted (AVE) in each construct is greater than the maximum value of the correlation coefficient between constructs, and we can interpret that the discriminant validity between variables is secured.

Table 2. Confirmatory factor analysis and Reliability result

| Variable | Metrics | Standardization factor(β) | Standard Error | t-value | Cronbach's α | C.R | AVE |
|---------------------|---------|-----------------------------------|----------------|---------|---------------------|-------|-------|
| Existence | Ex4 | 0.867 | 0.579 | - | 0.934 | 0.851 | 0.589 |
| | Ex3 | 0.888 | 0.560 | 19.280 | | | |
| | Ex2 | 0.875 | 0.622 | 18.755 | | | |
| | Ex1 | 0.908 | 0.425 | 20.136 | | | |
| Mobility | Mo4 | 0.749 | 1.019 | - | 0.928 | 0.855 | 0.598 |
| | Mo3 | 0.901 | 0.415 | 15.132 | | | |
| | Mo2 | 0.91 | 0.384 | 15.304 | | | |
| | Mo1 | 0.943 | 0.256 | 15.905 | | | |
| Relationship | Re4 | 0.809 | 0.825 | - | 0.907 | 0.810 | 0.516 |
| | Re3 | 0.8 | 0.770 | 14.199 | | | |
| | Re2 | 0.892 | 0.481 | 16.428 | | | |
| | Re1 | 0.868 | 0.593 | 15.871 | | | |
| Individuality | In4 | 0.84 | 0.546 | - | 0.911 | 0.836 | 0.561 |
| | In3 | 0.826 | 0.715 | 15.706 | | | |
| | In2 | 0.862 | 0.513 | 16.754 | | | |
| | In1 | 0.868 | 0.487 | 16.935 | | | |
| Entertainment | En4 | 0.866 | 0.453 | - | 0.922 | 0.872 | 0.629 |
| | En3 | 0.858 | 0.457 | 17.725 | | | |
| | En2 | 0.866 | 0.417 | 18.024 | | | |
| | En1 | 0.87 | 0.436 | 18.171 | | | |
| Usefulness | Us4 | 0.808 | 0.507 | - | 0.904 | 0.850 | 0.587 |
| | Us3 | 0.857 | 0.487 | 15.552 | | | |
| | Us2 | 0.858 | 0.458 | 15.574 | | | |
| | Us1 | 0.827 | 0.527 | 14.808 | | | |
| Self-efficacy | Se4 | 0.618 | 0.868 | - | 0.885 | 0.835 | 0.564 |
| | Se3 | 0.873 | 0.405 | 10.776 | | | |
| | Se2 | 0.866 | 0.476 | 10.719 | | | |
| | Se1 | 0.898 | 0.338 | 10.958 | | | |
| Flow | Fl3 | 0.855 | 0.392 | - | 0.899 | 0.849 | 0.652 |
| | Fl2 | 0.879 | 0.420 | 16.906 | | | |
| | Fl1 | 0.863 | 0.388 | 16.582 | | | |
| School adaptation | SA3 | 0.861 | 0.472 | - | 0.890 | 0.797 | 0.568 |
| | SA2 | 0.928 | 0.318 | 18.304 | | | |
| | SA1 | 0.791 | 0.905 | 15.089 | | | |
| Social relationship | SR3 | 0.709 | 0.665 | - | 0.822 | 0.757 | 0.512 |
| | SR2 | 0.774 | 0.614 | 10.962 | | | |
| | SR1 | 0.871 | 0.497 | 11.733 | | | |

*** $p < .01$

Table 3. Correlations among Constructs

| | Variable | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|------|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-------|
| (1) | Ex | 0.767 | | | | | | | | | |
| (2) | Mo | -0.094 | 0.773 | | | | | | | | |
| (3) | Re | -0.055 | 0.514** | 0.718 | | | | | | | |
| (4) | In | 0.608** | -0.091 | -0.032 | 0.749 | | | | | | |
| (5) | En | -0.105 | 0.583** | 0.596** | -0.051 | 0.793 | | | | | |
| (6) | Us | 0.564** | -0.078 | -0.033 | 0.616** | -0.074 | 0.766 | | | | |
| (7) | Se | 0.464** | -0.040 | -0.055 | 0.536** | -0.021 | 0.627** | 0.751 | | | |
| (8) | Fl | -0.082 | 0.275** | 0.218** | -0.016 | 0.366** | -0.007 | 0.009 | 0.807 | | |
| (9) | SA | -0.038 | 0.468** | 0.457** | -0.016 | 0.466** | -0.035 | -0.024 | 0.359** | 0.754 | |
| (10) | SR | 0.444** | -0.077 | -0.028 | 0.525** | -0.049 | 0.560** | 0.523** | -0.074 | -0.028 | 0.716 |
| | Average | 4.084 | 3.893 | 3.823 | 4.544 | 4.175 | 4.965 | 5.221 | 5.376 | 4.576 | 4.831 |
| | Standard Deviation | 1.451 | 1.368 | 1.350 | 1.264 | 1.193 | 1.142 | 1.123 | 1.159 | 1.337 | 1.210 |

**p<.01, *p<.05, number at the diagonal line is average variance extracted(AVE).

3) Verified Results of Research Model

When we look at the fitness of the research model, we obtained the following values: $\chi^2=1036.084$, $p=0.000$, $CMIN/DF=1.733$, $RMSEA=0.054$, $NFI=0.871$, $CFI=0.94$, $GFI=0.821$, $AGFI=0.789$, $TLI=0.934$, and $IFI(\Delta 2)=0.941$. When looking at the values of CFI, TLI, RMSEA, etc. suggested by Kim (2006) as model suitability indices, it was confirmed that the fit of the research model was generally good. The results of the hypothesis test are shown below.

First, among the characteristics of adolescents using media, sense of presence was found to have a positive (+) effect on self-efficacy of $\beta=0.116$, among the characteristics of adolescents using media, sense of mobility was found to have no significant effect on self-efficacy of $\beta=0.027$, among the characteristics of adolescents using media, sense of relationship was found to have no significant effect on self-efficacy of $\beta=-0.081$, among the characteristics of adolescents using media, sense of personality was found to have a positive (+) effect on self-efficacy of $\beta=0.169$, among the characteristics that adolescents used media, sense of entertainment was found to have no significant effect on self-efficacy of $\beta=0.081$, and among the characteristics that adolescents used media, sense of usefulness was found to have a positive (+) effect on self-efficacy of $\beta=0.61$. Second, among the characteristics of adolescents using media, sense of presence was found to have no significant effect on the immersion of $\beta=-0.08$, among the characteristics of adolescents using media, sense of mobility was found to have no significant effect on immersion of $\beta=-0.059$, among the characteristics of adolescents using media, sense of relationship was found to have no significant effect on immersion of $\beta=-0.025$, among the characteristics of adolescents using media, sense of individuality was found to have no significant effect on immersion of $\beta=0.022$, among the characteristics that adolescents used media, sense of entertainment was found to have a positive (+) effect on self-efficacy of $\beta=0.349$, and among the characteristics of adolescents using media, sense of usefulness was found to have no significant effect on immersion of $\beta=0.076$. Third, among the characteristics of adolescents using media, self-efficacy was found to have no significant effect on school adaptation of $\beta=-0.027$, and immersion was found to have a positive (+) effect on school adaptation of $\beta=0.485$. Finally, Among the characteristics of adolescents using media, self-efficacy was found to have a positive (+) effect on social relations of $\beta=0.566$, and immersion was found to have no significant effect on social relations of $\beta=-0.081$.

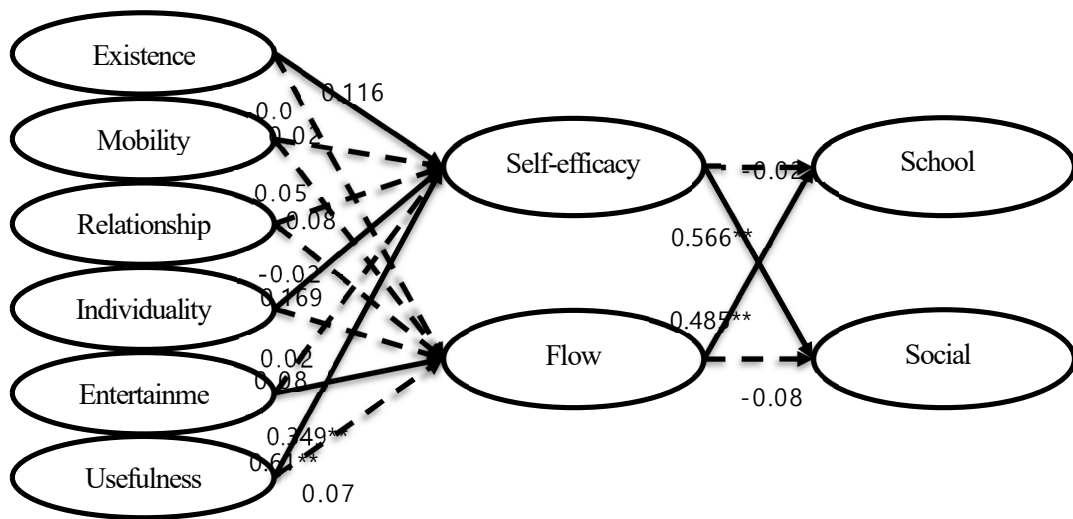


Figure 1. Structural equation results

Table 4. The result of research model

| Hypothesis | Path | Path coefficient | Results |
|------------|--------------------------------------|------------------|---------|
| H1-1 | Existence -> Self-efficacy | 0.116* | Accept |
| H1-2 | Mobility -> Self-efficacy | 0.027 | Reject |
| H1-3 | Relationship -> Self-efficacy | -0.081 | Reject |
| H1-4 | Individuality -> Self-efficacy | 0.169* | Accept |
| H1-5 | Entertainment -> Self-efficacy | 0.081 | Reject |
| H1-6 | Usefulness -> Self-efficacy | 0.61*** | Accept |
| H2-1 | Existence -> Flow | -0.08 | Reject |
| H2-2 | Mobility -> Flow | 0.059 | Reject |
| H2-3 | Relationship -> Flow | -0.025 | Reject |
| H2-4 | Individuality -> Flow | 0.022 | Reject |
| H2-5 | Entertainment -> Flow | 0.349*** | Accept |
| H2-6 | Usefulness -> Flow | 0.076 | Reject |
| H3-1 | Self-efficacy -> School adaptation | -0.027 | Reject |
| H3-2 | Flow -> School adaptation | 0.485*** | Accept |
| H4-1 | Self-efficacy -> Social relationship | 0.566*** | Accept |
| H4-2 | Flow -> Social relationship | -0.081 | Reject |

:P<0.05, *:P<0.01, ns: not significant

5. Conclusion

Due to the recent occurrence and spread of Corona-19, the use of media by adolescents to take classes on non-face-to-face has become daily routine, and the use of media by adolescents will be an important factor for adolescents when they form school adaptation and social relationships. As media use is becoming common throughout society, it plays an important role in everyday life. In the past, studies on the negative effects of adolescents' media use were mostly done, but now that use is unavoidable, efficient use is highlighted and has become a major educational and national concern. Young people should continue to use the media to form and learn major social relationships such as education, and based on this they should seek to improve knowledge accumulation and problem-solving skills. Compared to the general public, studies on the effects of adolescents

using media can have a greater social impact. Therefore, the purpose of this study is to find out the media characteristics of adolescents, and to find out how they affect social relationships and school adaption through self-efficacy or immersion. Based on this, in order to provide appropriate media to youth, we intend to present the directions the media should take in aspects of government policy.

The results of the study we conducted with the above purpose are as follows.

First, it was confirmed that among the media characteristics of adolescents existence had a positive effect on self-efficacy. This means that young people are asking for communication through the media, just as they actually meet and communicate with their friends or teachers, therefore, it is expected that young people will increase their confidence and expectation in their ability to lead successful outcomes in overall areas such as learning by increasing their sense of presence. Therefore, it is believed that it will be an opportunity for adolescents to realize their self-confidence by using the media and to better play their role in learning. Next, it was confirmed that individuality among the media characteristics of adolescents had a positive effect on self-efficacy. This means that people who use media can find any information they want conveniently depending on their personality. Those who use the media will use it as a learning tool that is very helpful in things like self-learning, depending on their existence. In addition, among the characteristics of adolescents using media, the sense of usefulness was found to have a positive effect on self-efficacy. This is a result that is in line with individuality of adolescents, and is a result that informs them so that they can make the best choice and convenience by using the media for their goals.

Second, among the characteristics of adolescents using media, entertainment was found to have a positive effect on immersion. This means that adolescents use the media to refresh themselves or feel fun or pleasure. When teenagers use media properly, it indicates that the media plays a positive role, such as helping them relax and concentrate.

Third, among the characteristics of adolescents using media, self-efficacy was found to have a positive effect on social relationships. This can be interpreted as that when adolescents with high self-efficacy use the media, they form a good relationship with their friends or teachers and maintain good relationships.

Finally, among the characteristics of adolescents using media, immersion was found to have a positive effect on immersion. Ultimately, it shows that teenagers who are immersed in their work through the use of media are able to adapt well to school, and can instantly search the media and understand what they don't know in school. Therefore, the media is an indispensable tool for them to fill their shortcomings. It can be interpreted that adolescents believe that media platforms such as YouTube or TikTok are essential for themselves to adapt to school life.

In interpreting the above results, we will have to keep the following significance and limitations in mind:

First, there is a limit because the constituent elements were selected to adopt media by adolescents using existing references. Using the results of this study, with proper precedent studies such as pilot research conducted, we will show more reliable and better results to select constituent elements in the future.

Second, the subjects we studied were adolescents living in Seoul, so there was a limit to expanding and interpreting our research result across the country.

Therefore, this should be interpreted in consideration of the result of research conducted only in the Seoul area. In order to compensate for the two limitations mentioned above, the subsequent studies are required as follows.

First, in addition to the research conducted from the perspective of adolescents who use the media, a research conducted from the perspective of adults who provide media is necessary. We believe that research should be conducted in the future to reveal potential influencing factors that can affect adolescents who use media.

Second, subsequent studies on teenagers living in various areas will be needed, considering regional factors outside Seoul. Compared to other regions, Seoul is relatively well equipped with infrastructures for using media. Therefore, the results of research conducted on adolescents living only in Seoul are inevitable to be fragmentary. Subsequent studies should be conducted in consideration of regional factors.

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