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Abstract

As complex risk factors become routinized, social safety and safety culture are gaining attention as important social issues. Emphasis on safety culture reflects the fact that the need for social control over complex risk factors keeps increasing. It is difficult, however, to quantify safety culture as it has intangible and qualitative characteristics. Although it can be managed and improved with qualitative data, it can be managed and improved even more effectively when quantitative data are added.

In the private security field, it is more important to understand safety culture as a profession which implements safety-related tasks and manages safety. Even though Korea has undergone various incidents and accidents on a continual basis due to its compressed economic development, understanding and efforts on safety culture have been deficient owing to lack of awareness and non-systematic activities conducted by the private sector.

This study found out assessment factors which constitute safety culture through DHP technique and drew out relative importance of the factors constituting the safety culture. As a result of the 1st Delphi analysis, a total of 73 factors of safety culture were drawn out and, through literature review on the preceding studies and meeting of the experts on researches, individual factors were finally classified into safety value, safety attitude, safety behavior and safety knowledge while organizational factors were classified into safety atmosphere, safety procedure, safety education and safety motivation, totaling 73 factors. Based on the results of the 2nd Delphi, 6 factors with CVR values less than 1.0 and average less than 3.0, which were 1 item of safety attitude, 1 item of safety atmosphere, 2 items of safety procedure and 2 items of safety motive, were deleted, finalizing 67 items. In the 3rd AHP analysis, paired comparison was conducted on 67 factors and weights for each factor and their priority order were drawn out.

Among the constituting factors of safety culture, safety value and safety motive had highest weights, followed in descending order by safety behavior, safety atmosphere, safety attitude, safety education, safety procedure and safety Knowledge.

Although some factors among those which were studied and drawn out by this study are relatively insignificant, even those factors need to be handled carefully as they also constitute safety culture. This study is expected to work as the basic data and to maintain a high level without compromising any one of the factors. In addition, subsequent studies by other researchers should prevent and prepare for various risks through integrated and long-term management of safety culture, not randomly and sporadically handled by industry, region and occupation. Studies on safety have been conducted through history and will also continue with the history of humanity. In the process of these studies, quantification of phenomena related to safety will work as a cornerstone for a higher level of research activities through measurement and comparison.

[Keywords] Security, Safety, Safety Culture, Private Security, Republic of Korea
1. Introduction

As complex risk factors become routinized, social safety and safety culture are gaining attention as important social issues. Emphasis on safety culture reflects the fact that the need for social control over complex risk factors keeps increasing. It is difficult, however, to quantify safety culture as it has intangible and qualitative characteristics. Although it can be managed and improved with qualitative data, it can be managed and improved even more effectively when quantitative data are added.

In the private security field, it is more important to understand safety culture as a profession which implements safety-related tasks and manages safety. Even though Korea has undergone various incidents and accidents on a continual basis due to its compressed economic development, understanding and efforts on safety culture have been deficient owing to lack of awareness and non-systematic activities conducted by the private sector.

2. Theoretical Background

2.1. Safety culture

Safety culture means the state of consciousness and practice of safety becoming a part of daily lives of individuals or activities of members of an organization as their safety values are embedded in each individual or member of the organization[1]. Definitions of constituting factors of safety culture are as follows; safety value is the belief in which individuals strive to behave safely[2]; safety attitude is the readiness to react effectively and safely especially in situations which arouse and cause tension[3]; safety behavior, which is the opposite concept of unsafety behavior, means safety-related behaviors which enables one to avoid possible risks in the process of performing tasks assigned to him/her[4]; safety knowledge is the safety-related information such as methods to protect and prevent damages or injuries from possible causes and knowledge on practical threats to safety[5]; safety atmosphere is the perception shared by the members of an organization on safety-related policies, procedures and practices of the organization[6]; safety procedures is defined as the procedures, rules and norms to be observed by employees and includes education, guidance and instruction[7]; safety education aims to change the attitude toward risks and safety in a desirable direction by providing knowledge on safety and health and to reduce accidents by inducing safe behaviors[8]; safety motivation means a state in which individuals make efforts to behave safely and place importance on safety behaviors[6].

2.2. Private security

Private security means individuals, organizations and for-profit corporation which provide security and safety-related services for specific customers in order to protect their personal interests, lives and property from various risks for the compensation received from them[9]. There are five types of private security services: facility security services, personal security services, convoy security services, machinery security services and special security services.

2.3. Preceding studies

In Korea, after the collapse of Sampung Department Store in 1995, efforts have been made for effective cooperation and countermeasures by the government by stipulating safety-related laws and regulations with the rise of public interest in safety. In line with this, studies on safety culture have been conducted in academic circles as well. The results of preceding studies on safety culture are summarized as follows; Sung Yeon Kim(2014) studied the effect of the factors of safety culture on safety behaviors[2]. Yoo Jung Kwon (2009) drew out 5 standards of assessment for safety culture in railway industry[10] and Gye Hyung Park(2011) analyzed the organic relationship among safety knowledge, safety education, safety procedures and safety behavior in the establishment of safety culture for new employees[11]. Gwan Hyung Lee et al. (2005) researched on safety management plans through safety culture[12]. Hyun Woong Cho et al. The results of preceding studies on safety culture mostly show similar
results in the constituting factors of safety culture but different results in their influences.

3. Study Methods

For research subjects, study used the judgment sampling method in which the researchers who are well aware of the research problems sample a specific group which is judged to effectively reflect the opinions of the overall population. The criteria for the selection of the experts were based on representativeness, adequacy and qualities, responsible participation, independence of the responses and individual differences in the competence and knowledge of each expert and, considering the return rate of the questionnaires, a group of 45 experts were selected which were composed of 15 professors, 15 field experts with over 5 years of experience in security-related works in private security and 15 police officers in related tasks.

As for study methods, this study analyzed "relative importance of constituting factors of safety culture" by using Delphi technique which is a DHP(Delphi Hierarchy process) and AHP(Analytic Hierarchy Process) which is a hierarchical decision-making process. The research process is largely composed of investigation on the constituting factors of safety culture of the private security by using Delphi technique and investigation on the relative importance of the constituting factors by using AHP(Analytic Hierarchy Process) technique, a hierarchical decision-making method.

In order to assess relative importance of the constituting factors of safety culture, study conducted questionnaire surveys 3 times. The 1st and 2nd surveys used Delphi method to explore constituting factors of safety culture while the 3rd survey drew out the significance and priority order for the factors drawn out from the 1st and 2nd surveys by using AHP questionnaires. To enhance the reliability of the questionnaires, experts examined the questionnaire of each survey for feedback, implications included in the items, questionnaire format(structure), difference in meaning for the terms used in the questionnaire and their effects.

4. Study Results

4.1. Results of the 1st delphi research

As a result of the first Delphi survey based on upper concept safety culture, a total of 73 factors were drawn out; 2 individual and organizational factors were drawn out from Level 1. 8 factors were drawn out from level 2 which include individual factors composed of safety value, safety attitude, safety behavior and safety knowledge and organizational factors composed of safety atmosphere, safety procedure, safety education and safety motivation. In the final 3rd level, 9 safety values, 9 safety attitudes, 11 safety behaviors and 8 safety knowledges were drawn from individual characteristics of safety culture while 8 safety cultures, 10 safety procedures, 9 safety educations and 9 safety motivations were drawn out from organizational characteristics of safety culture, resulting in a total of 73 factors.

4.2. Results of the 2nd delphi research

In the 2nd Delphi survey, the items with the Delphi CVR value of 0.4 or less or the Cronbach’sα value of 0.8 or less were investigated and, out of the 73 factors drawn out from the 1st survey, 67 items were finally drawn out by excluding a total of 6 items, which were 1 item of safety attitude, 1 item of safety atmosphere, 2 items of safety procedure and 2 items of safety motivation.

4.3. Results of AHP research

Table 1. Results of AHP research.
As a result of analyzing the assessment indexes to measure safety culture, priority order of the factors constituting the safety culture were as follows: safety value(0.203), safety motivation(0.199), safety behavior(0.161), safety atmosphere (0.108), safety attitude(0.105), safety education(0.080), safety procedures(0.076) and safety knowledge(0.068).

### 5. Conclusion

This study found out assessment factors which constitute safety culture through DHP technique and drew out relative importance of the factors constituting the safety culture. As a result of the 1st Delphi analysis, a total of 73 factors of safety culture were drawn out and, through literature review on the preceding studies and meeting of the experts on researches, individual factors were finally classified into safety value, safety attitude, safety behavior and safety knowledge while organizational factors were classified into safety atmosphere, safety procedure, safety education and safety motivation, totaling 73 factors. Based on the results of the 2nd Delphi, 6 factors with CVR values less than 1.0 and average less than 3.0, which were 1 item of safety attitude, 1 item of safety atmosphere, 2 items of safety procedure and 2 items of safety motive, were deleted, finalizing 67 items. In the 3rd AHP analysis, paired comparison was conducted on 67 factors and weights for each factor and their priority order were drawn out.

Among the constituting factors of safety culture, safety value and safety motive had highest weights, followed in descending order by safety behavior, safety atmosphere, safety attitude, safety education, safety procedure and safety Knowledge.

Although some factors among those which were studied and drawn out by this study are relatively insignificant, even those factors need to be handled carefully as they also constitute safety culture. This study is expected to work as the basic data and to maintain a high level without compromising any one of the factors. In addition, subsequent studies by other researchers should prevent and prepare for various risks through integrated and long-term management of safety culture, not randomly and sporadically handled by industry, region and occupation. Studies on safety have been conducted through history and will also continue with the history of humanity. In the process of these studies, quantification of phenomena related to safety will work as a cornerstone for a higher level of research activities through measurement and comparison.

### 6. References

#### 6.1. Journal articles


**6.2. Thesis degree**


**6.3. Books**


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**Abstract**

Korea’s rapid economic growth has further diversified its security environment, so Korea has been introducing a private security system to work with police since 1970, which is a crime prevention system in developed countries.

However, in the case of the detective, all of the OECD member countries except Korea are active to introduce it as a major area of private security. Even though the detective system in Korea has not yet been legislated, the private investigators from developed countries have entered into Korea to conduct the detective works since Korea became an OECD member in 1996.

Therefore, it is the right time for Korea to prepare for introducing a private detective system. The Korean detective system, however, began in the Japanese colonial period (1910-1945), and was regulated as Chosun governor general ordinance No. 82. in 1911, and then after liberation, the detective business was conducted again, but on September 23, 1961, the "Private Agency Regulation Act" was enacted and regulated.

In Korea, there are a lot of companies that are engaged in real detective business by using the name of a consulting company or the cases where a private security company carries out a detective business, but they are crowded for doing this business with no legal basis.

Therefore, this study aims to investigate and discuss the research questions on the necessity of the introduction of Korean detective business law through an in-depth interview with the expert group.

**Keywords** Security, Public Order, Detective, Law, OECD

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**1. The Question of Study**

In Korea, there are active discussions on the enactment of the "Public Detective Business Law" which is proposed by the National Assembly, along with the revitalization of the field of detective industry.

Because of these reasons, even though the various crimes including the Internet crime are increasing in Korea, it is often difficult to expect satisfactory results in reality due to limitations of the police force and insufficient information of lawyers after reporting to the prosecutors and the police or consulting a lawyer for a case. Based on this reality, there are some opinions on the necessity of the introduction of the detective system and it is necessary to examine the necessity of the legal system of the detective system in detail. The research question of this study is as follow.

What are the actual reasons for the necessity of the detective system in Korea?

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**2. The Method of the Study**
The study conducted semi-structured interviews with police and lawyers with more than five years of experience in Korea for about one year from January 2016 to December 2016. The termination of the interview was based on the redundancy of the sample.

Interview data was categorized again by research topic and sub-topics through Content Analysis, and then the categorized data were analyzed through narrative analysis.

3. Differentiation from Preceding Studies

Until now, the studies related to detective in Korea are divided into (1) scope of work of a detective, (2) establishment of the supervisory agency, and (3) education and training of detective. However, this study is different from the previous studies in that it traces the actual contents that need to introduce the detective system of Korea in a questingly way. The following <Table 1> summarizes the preceding studies.

<table>
<thead>
<tr>
<th>Category</th>
<th>Researcher</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work scope</td>
<td>Lee &amp; Choi (2012)</td>
<td>Provide effective measures on how to set the scope of the private investigator’s right to investigate[1].</td>
</tr>
<tr>
<td></td>
<td>Choi &amp; Lee &amp; Hwang (2012)</td>
<td>The scope of the legislation of the Korean detective system is proposed by comparing the scope of work of the legislative proposal of Korea and the overseas case[2].</td>
</tr>
<tr>
<td>Management &amp; Supervision</td>
<td>Lee (2008)</td>
<td>Claims that the supervisor of detective business should be police like foreign cases[3].</td>
</tr>
<tr>
<td></td>
<td>Jeong &amp; Park (2009)</td>
<td>As a supervisory agency for the detective industry, an independent organization under the National Police Agency should be installed and operated as in the case of foreign countries[4].</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>Lee &amp; Park (2007)</td>
<td>The education of the detective should be centered on-the-job training as the current private security guard in Korea[5].</td>
</tr>
<tr>
<td></td>
<td>Cho &amp; Lee (2011)</td>
<td>The department for the education of the detective should be established at the current Korean university and has to focus on professional education[6].</td>
</tr>
</tbody>
</table>

4. Interview Data Analysis: The Necessity of a Detective System

4.1. Limitation of police force

It is the fact that the mobilization of crime in Korea causes difficulties in cracking down and investigating crimes and the investigation of national authority is not meeting the expectation of the people. The limitations of these police powers can be complemented by expert detectives.

"I think that the detective system which some are worried about the side effect will play a big role in the prevention of crime if it is supplemented by proper restriction(Police Officer KSJ_20160205)."

"If a reasonable and legitimate market is open, it will play a major role in crime prevention by complementing public power(Attorney PSE_20161006)."

As of 2016, the number of population per one police officers in Korea is 456, which is insufficient compared to major developed countries. On the contrary, the demand for security such as the 5 crimes and 112 reports is rapidly increasing, but the budget of the National Police Agency is insufficient compared to the level of major developed countries.

In this situation, the police have a high arrest rate of 87% on average, but they are not enough to meet the public expectations.
4.2. Prevent expansion of unauthorized companies

Currently, about 3,000 unauthorized detective businesses are established and operated in Korea. Such irrational unauthorized detective companies are causing social problems by being given to illegal acts.

"When detective agencies are rampant and damage cases are on the rise, it would be a good idea for the government to set up rigorous selection criteria and qualifications to introduce a rational and legitimate detective system(Police Officer CSK_20161116)."

"There is a demand but there is no legitimate source to provide sufficient data, which seems to be the reason why the illegal market is growing(Attorney CSJ_20161217)."

In this regard, if the public authority of the state fails to satisfy the basic rights of the people, the private investigation system shall be established in accordance with the principle of the beneficiary, so that the basic rights are legally fulfilled and the lack of public power is supplemented with the thorough management of them and there is a need to block illegal activities in advance as well.

4.3. The role of collecting litigation evidence

In relation to litigation, attorneys may spend too much time and money in collecting evidence, having problems in securing testimony credibility and the perjury problem. Private investigators can reduce the burden of these attorneys' work, and the problem of the credibility of testimony and perjury can be solved to a certain extent[7].

"A detective system is required to achieve effective results in collecting evidence and various data(Police officer JDS_20160122)."

"It is necessary for the detective to resolve various incidents that individuals can not do, such as collecting evidence, confirming facts within the limits permitted by law for criminal cases and accidents(Attorney KSB_20161208)."

In this case, the collection of evidence of the detective must be distinguished from the collection of the evidence of the police because it does not secure the objectivity of identity. In addition, investigative activities of the detective should be strictly restricted in areas where it is likely to interfere with police investigation activities or directly related to the crime scene[8].

4.4. Identification of missing persons

It is a reality that police are not able to supply satisfactory security because of problems of manpower and time.

"Considering the police work that is focused on securing public order with limited manpower and budget, I think that the burden of the police will be alleviated when the private investigation system is settled (when searching for missing persons, etc.)(Police Officer LSC_20160211)."

"I think it is necessary to introduce a legal basis for the dispersal and private domain activity in the nature of the public property of the police activities, constituting a complementary nature to the activities of state agencies(Attorney HDH_20161120)."

Therefore, it is necessary to legislate the detective to overcome the limitations of the police and illegal acts of existing unauthorized detective companies.

4.5. Increase in economic crime

When the police solve the economic crimes, it is limited to significant economic crimes or cases that follow a large amount of money. In this respect, there is a limitation of the police[7].

"The detective system deals with sensitive areas such as the invasion of privacy, so it should be cautious in implementing institutional legislation, but it is expected that the damage caused by the limitations of the police force will be greater for civilians(Police Officer KSJ_20160109)."

"Public order services in the private arena should be carried out as soon as possible(Attorney HTG_20161227)."

In Korea, the number of litigation cases is only one per 8 people, but the lawyers' rep-
Presentation rate is not too high with the average rate being 31.6% and 25.2% for the rate of lawyer representation in civil lawsuits, 48.9% for criminal lawsuits, 35.8% for domestic lawsuits and 66.8% for administrative lawsuits.

5. Argument

Currently, in Korea, the law prohibits the use of the term 'detective' or 'private investigator', or to conduct work related to the investigation of privacy of a specific person and the identification of the location. However, it is the fact that many unauthorized detective companies have been working publicly for a long time.

Also, since Korea joined the OECD in 1996, the detective companies of major developed countries have come to Korea and started to operate.

This is because the private security in Korea has been expanding rapidly since the 1980s, with an average annual growth rate of more than 25%. The benefits of private security, which had stayed only in some strata of society in the past, are becoming common to the general public because of economic development.

Through this study, we searched for the necessity of legislating the detective system in Korea. The results are as follows. ① Limit of police force ② Prevention of unauthorized company expansion ③ Collection of legal evidence ④ Identification of missing persons ⑤ Increase in economic crime.

In this regard, the necessity of the detective system in Korea is raised, but since the first legislative attempt in 1999, there have been a total of 10 legislative attempts for 17 years so far. However, the controversy surrounding the establishment of the supervisory agency between 'National Police Agency' and 'Ministry of Justice' made the legislation infertile, and the differences in scope of work also make it difficult.

However, I would like to suggest that this study make legislative proposals so that the detective can play a role in protecting the lives and property of the people, as long as the police can not cope with the increase of highly intelligent and heinous crimes over time in Korea.

6. References

6.1. Journal articles


6.2. Thesis degree

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Abstract

Until now, there has been a number of cases of aviation accidents occurred in Korea, such as the kidnapping case of Changrang-Ho by North Korea(1958), KAL YS-11 kidnapping case(1969), KAL F-27 kidnapping case(1969), KAL B727 attempted kidnapping(1985), KAL KE858 Air Explosion Case(1987), KAL B747 attempted kidnapping(1988), KAL 388 attempted kidnapping(1993), etc.

In response to such accidents, the South Korean government allowed air security personnel to carry weapons, along with the uniformed police officer after the 1969 aircraft kidnapping case and has allowed the petition police to carry out the work of aviation security personnel since 1970. Also, it introduced a new system in which security personnel board the aircraft by a visa agreement with the United States in 2008.

Therefore, under the influence of the Air Marshal system of the United States, in the case of airline flights suspected of terrorism in Korea, security personnel are confidently carrying on counter-terrorism work within the aircraft, and such aviation security services are also being studied in academia.

However, as humankind is experiencing an increasing number of national emergencies due to natural disasters compared with the past, the study of the occurrence of aviation safety accidents caused by earthquakes and storm and flood has not been conducted yet. So, in this study, I would like to introduce and discuss Korea’s aviation safety manual for earthquake and storm and flood accidents.

[Keywords] Aviation Safety, Airport, Crisis Management, Earthquake, Storm and Flood

1. The Need for Study

The dangers of the past were external threats, mainly from nature, such as floods, droughts, earthquakes, and epidemics, but today’s risks are derived from the inherent risks, such as climate change, radiation exposure, environmental destruction, bird flu, foot and mouth disease, threats of nuclear weapons, and aviation terrorism which are caused by the progress in industry and technology. Also, today's dangers are neither directly visible nor directly perceived. Because risks unable to perceive directly are difficult to predict and uncertain, the public is easily overwhelmed by collective anxiety[1].

Safety ignorance in Korea has been deeply formed in our hearts because the safety education from the university to the industrial fields has not been properly implemented in the midst of high growth from the 1960s to 1980s. By doing research and doing business with unfounded vague expectations that it will be just fine, and accumulated such poor practices caused a series of accidents like a collapse of buildings and bridges that would endure for 100 years, the aircraft crashed, ships sank, the trains derailed, and city gas exploded. Also, due to frequent incidents related to industrial accidents, it was reported that workers were exposed to toxic substances so that they became sick or lost their
lives at factories that deal with hazardous materials.

The threat to aviation safety that can result from this safety ignorance can possibly lead to a major accident even with a small mistake so the management of aviation safety is very important. It is almost impossible to convert the loss cost caused by aircraft accident to economic value because it leads to loss of cost, social and economic loss, degradation of public morale, distrust of the government, and the diplomatic breakdown of national status, as well as dozens of casualties which could up to hundreds of. Nevertheless, small and medium-sized aircraft accidents have continued to occur since the launch of the civil aviation business in 1969.

Thus, this study aims to introduce and discuss Korean aviation safety manual for earthquake and storm and flood accidents.

2. Analysis of Preceding Studies

The following <Table 1> summarizes preceding studies related to aviation safety in Korea.

Table 1. Analysis of preceding studies.

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee (2001)</td>
<td>As part of efforts, such as establishing fundamental policies on aviation safety of the government and arranging airline's institutional devices based on aviation safety policy, to reduce airline accidents caused by airlines, National Airlines claims to be able to help strengthen its foreign competitiveness[2].</td>
</tr>
<tr>
<td>Kim (2008)</td>
<td>The results that caused by the path dependence of the Korean civil aviation safety management system and the institutional changes suggest that it is a desirable policy agreement of the civil aviation safety management system in the future[3].</td>
</tr>
<tr>
<td>Kim (2012)</td>
<td>It is argued that the legal and institutional supplement that prioritizes aviation safety from the airport development stage is necessary because it may reduce air traffic accidents further if the airport or airport facilities are good enough to guarantee the safety[4].</td>
</tr>
<tr>
<td>So &amp; Lee (2014)</td>
<td>It is claimed that the appropriate resources are allocated for aviation safety activities and safety management skills should be kept through employee education and training, and the performance-based inspections such as assessing the achievement of safety objectives and risk assessment should be accompanied with the inspection of safety standards and procedure conduct[5].</td>
</tr>
<tr>
<td>Im &amp; Han &amp; Lee (2015)</td>
<td>In order to improve the safety of the aviation industry, it is necessary to construct a proactive and active preventive system, for this, it is necessary to integrate, share, and actively utilize the related database[6].</td>
</tr>
<tr>
<td>Chang (2015)</td>
<td>It argued that the government should not spare the effort to form an atmosphere in which the safety culture is settled by thoroughly carrying out education targeting airline operating site along with the improvement of the system[7].</td>
</tr>
</tbody>
</table>

3. Aviation Safety Concept

3.1. The concept of aviation safety

Without defining the terms of aviation safety separately. The Chicago Convention, as well as the domestic aviation regulations stipulate international aviation safety standards. Aviation safety is a compound word that combines 'aviation' and 'safety'.

There are three important risk factors that impede aviation safety, including a state in which there is no risk of human injury or material damage, a state in which the degree of risk is reduced to an acceptable level, and a state in which the risk factor can be controlled.

3.2. Aviation safety accidents
The International Civil Aviation Organization (ICAO) defines the aviation safety accident as all accidents involving that aircraft and caused by the operation of the aircraft, such as death and injury of people or damage to an aircraft between the time when the aircraft is taken off, the flight crews or passengers boarded, and until the passengers got off the aircraft. More than half of all aviation accidents occur at the flight phase of takeoff and landing, often caused by one or more complex factors.

4. Aviation Safety

4.1. Earthquake crisis response manual

The purpose of this manual is to minimize damages with a systematic and prompt response by defining the mission, role, and action of headquarters and branch offices when an earthquake occurs.

This manual is applied to the activities of the Korea Airports Corporation headquarters and branch offices to deal with the earthquake which causes a large-scale damage or concerns of the possible damage, but it is excluded in case of a tsunami.

In the case of a crisis, when a large-scale airport facility is damaged by a strong earthquake, it is aimed at quickly responding to the situation and minimizing the scale/scope of the damage by early detection. As a response to rapid emergency response measures for rapid propagation of situations, identification of damage situations, rapid decision-making, and prevention of secondary damage, the disaster and safety countermeasures headquarters perform the tasks as shown in <Figure 1> to ensure the establishment of means of communication between disaster situations and related agencies and maintenance of communication system, quick configuration and operation of the headquarters situation section and branch accident investigation headquarters, and rapid identification, reporting, and response of damage scope and scale.

![Figure 1. Earthquake disaster prevention headquarters.](image)

4.2. Storm and flood crisis manual

This manual intends to minimize the damage with a systematic and prompt response by defining the duties, roles, and measures of...
the respective departments when a major disaster occurs or concerns with typhoon and heavy rain, and has a legal basis in 「Disaster and Safety Management Basic Law」, 「Natural Disaster Countermeasures Act」 and 「Meteorological Law」. The scope of application covers the preparation and response activities of Korean airlines related to the implementation of storm and flood disaster crisis management operations and applies to situations where large-scale damage or concerns take places due to the occurrence of storm and flood damage.

In the form of a crisis, alarms are divided into the stages shown in <Table 2> below when the damage to airport facilities due to typhoons and heavy rains and the situation where the operation of the airports may be interrupted.

**Table 2. Storm and flood hazard crisis alarm level.**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Judgment standard</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>- Period during which typhoons or heavy rainfall occur frequently</td>
<td>- Sign observation activity</td>
</tr>
<tr>
<td>(Blue)</td>
<td>- When typhoons are likely to affect Korea</td>
<td></td>
</tr>
<tr>
<td>Caution</td>
<td>- When there is a possibility of a disaster occurring as the announcement of a</td>
<td>- Meteorological observation and forecast</td>
</tr>
<tr>
<td>(Yellow)</td>
<td>storm or a storm special warning or warning</td>
<td>monitoring</td>
</tr>
<tr>
<td>Warning</td>
<td>- When a typhoon / heavy rain warning is issued and there is a high possibility of a</td>
<td>- Preparation planning check</td>
</tr>
<tr>
<td>(Orange)</td>
<td>disaster</td>
<td>- Operation of the situation section</td>
</tr>
<tr>
<td>Critical</td>
<td>- When a typhoon/heavy rain warning is issued and when a disaster is likely to</td>
<td>- Immediate response</td>
</tr>
<tr>
<td>(Red)</td>
<td>occur or a disaster occurs</td>
<td>- Operation of disaster prevention headquarters</td>
</tr>
</tbody>
</table>

Crisis alarms can be issued locally, regardless of the order. The goals of the response aim at preventive activities, rapid detection of the situation, and initial measures to minimize damage scale and scope with the measures of disaster prevention facility inspection, maintenance, and restoration material acquisition, stockpiling, prompt informing the relevant institutions and airport users, identification of damage situation, quick decision making. Rapid emergency response measures to be taken to prevent secondary damage include the responding through the inspection and refurbishment of vulnerable facilities against disasters, the establishment and operation of storm and flood countermeasures, the establishment of communication means between related agencies, the maintenance of cooperation system, the rapid identification and response of damage range and size, restoration of airport function and minimization of facility damage, the Disaster Prevention Headquarters is carrying out the tasks as shown in <Figure 2>.

**Figure 2. Storm and flood disaster prevention headquarters.**
5. Discussion

As there has been a sharp rise in the number of international travelers every year, the number of passengers on the airplane is steadily increasing in Korea. With the prospect of increased use of air traffic, it has been used at home and abroad for an air raid, terrorism, aircraft abduction, etc, which poses a serious threat to the safety of passengers and air navigation[8].

Accordingly, South Korea plans to establish six strategies and implement data-based aviation safety management system. In order to do this, the system of non-punishment and confidentiality protection for unintentional matters will be introduced to enable active data collection. It also establishes the national aviation safety program by setting up national safety indicators and constant monitoring. For airline companies, it tries to eliminate risk factors by the introduction of a safety investment disclosure system and the continuous measurement of safety culture. It is said that the safety of airplanes will be upgraded by introducing voluntary safety culture participation and introducing a safety assessment system for airline and disclosing evaluation results to the public.

In addition, it will build an aircraft certification system at the level of advanced countries and expand the aviation safety agreement with the system capabilities such as aircraft failure reporting, defect analysis and risk analysis to improve the aircraft certification and maintenance system. Finally, in order to keep pace with the rapid growth of the air transportation industry, it is preparing to build capacity-based training and evaluation systems based on the recommendations of the International Aviation Organization for manpower management and capacity building for aviation personnel through demand forecast analysis.

6. References

6.1. Journal articles


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Abstract

Crime in Korea is becoming increasingly ferocious, elaborate and cruel with the development of the economy, and property crimes such as theft are becoming more careful and intelligent, making it difficult to arrest criminals. In particular, robbery and theft, which are considered as serious problems of crime, are a type of crime with a greater fear of crime than other crimes and need a profound discussion.

The trespass theft, especially, in spite of the seriousness of the problem, it is difficult to know the exact amount of the damage because it is not separately classified in the official statistics.

In addition, as the technology leaks of Korean companies increase every year, it is as urgent to set up a legal measure to protect technology as the research and development of cutting-edge industrial technology. According to the Korea Information Security Agency under the National Intelligence Service(NIS), the number of cases that attempted to leak Korean advanced technology abroad is on the rise gradually.

In particular, unlike the past trends in which the leaks occurred mainly in the fields of the IT, automobile, shipbuilding, and IT industries, the victims cover SMEs and research institutes currently, reaching the bio-industry for green energy development as well.

Therefore, this study will discuss the urban design through crime prevention through environmental design(CPTED) and the expansion of CCTV installation which is a key issue, as a countermeasure against crime in Korea.

[Keywords] Crime in Korea, Crime Prevention, Crime Damage, CCTV, CPTED

1. The Need for Study

It has been shown that people in Korea are investing considerable effort and cost, such as changing their life patterns, reducing social activities, installing various security devices, and even getting help from private security companies to minimize the exposure to crime. In addition to these behavioral responses, fear of crime seems to be threatening healthy sociality by promoting disbelief among people, ultimately negatively affecting the quality of life of individuals[1][2].

Thus, the importance of crime prevention has gone up in order to reduce the crime and fear of crime. Especially, CCTV has been widely used recently as a tool for crime prevention to mitigate crime and fear of crime, after installing in Gangnamgu, Seoul, the capital of Korea, in 2002, resulting in that the effectiveness of CCTV has become widely known and the numbers installed is rapidly increasing through cooperation with local governments and police agencies[3]. Therefore, this study wants to investigate the use of CCTV, which is a key issue of CPTED in Korea.

2. CPTED Crime Prevention Measures

2.1. CPTED crime prevention definition
In recent years, Korea has been making cities for crime prevention and those who claim CPTED say that in order to build a city to prevent such crime, they have to deal with the design from the bench to the symbolic representations of territoriality. In other words, the organization of CPTED means the reconstruction of a social environment. It also includes the provision of physical defensible space to deter access by citizens. These ideas should be considered at the planning stage of a happy city, and urban designers should focus on the construction that prevents the isolation of the social community and the city[4].

In addition, the concept of CPTED assumes that proper design and proper management of buildings and environment can lead to reducing crime, fear of crime, and ultimately to improve the quality of life. In other words, it is aimed to increase the surveillance effect through the design and use of the environment, called a crime control strategy that safeguards and eliminates fear of crime in the entire community, the crime-prone areas, educational institutions, specific areas, transportation, etc., by combining physical design, participation of residents, and police enforcement.

Based on the claim of CPTED, the safe environment in the community society can be initiated by designing a physical environment that can positively affect human behavior, and created by the contributions from architects, urban planners, landscape and interior decorators and law enforcement officers.

2.2. CPTED crime prevention factors

According to Newman and Moffat, there are six basic elements that constitute CPTED; territoriality, surveillance(formal, informal), access control, image, activity support, and target strengthening[5].

2.2.1. Territoriality

Defensible spaces suppose that people defend and display their domain. A good design emphasizes the obvious difference of spaces between outside and inside, thinking it inspires people to express their desire for the realm. It is therefore important to make more private space which is distinguished from the public place to design a successful residential project. In other words, territoriality means that people protect the territory they feel as belonging to themselves and that they have some respect for others’ territory. There are many physical ways to advertise externally that the property belongs to them by showing fences, paved roads, installation of artwork, signs, good maintenance of building and gardening. It is fairly easy to identify intruders within a well-defined space.

2.2.2. Surveillance

Surveillance consists of natural surveillance such as surveillance to monitor crime through local residents and local resources, and police patrol and CCTV. Natural surveillance refers to activities that increase the opportunity for potential criminals to be observed by local residents. Official surveillance refers to an activity that increases the opportunity for criminals to be observed by local merchants and security personnel. It also includes police patrols. A representative of mechanical surveillance is CCTV. By installing CCTV, potential criminals know the possibility of their criminal behavior to be exposed, which means deter the opportunity for crime.

2.2.3. Access control

Access control means limiting the opportunities for crime by establishing border lines to clearly distinguish between public and private places. It means to restrict the access to crime by selectively distinguishing the exit from the entrance, or by installing a fence, a street lighting, or a boundary line.

2.2.4. Activity support

Activity support means strengthening the observation function of the streets by encouraging the use of the public in the area with the installation of recreational facilities and the installation of benches for hiking trails. Supporting legitimate activities in public space helps to hinder crime.

2.2.5. Image

Promoting a positive image and maintaining the environment on a daily basis is a positive signal to all users and maintaining the
function of an effective physical environment. The importance of this physical environment and the image of the surrounding environment has the effect of mitigating fear of crime and crime.

2.2.6. Target strengthening

It is an effort to prevent potential criminal targets from being harmed. This means that it makes difficult to commit crimes by utilizing the installation of locking devices, the installation of security windows, tempered glass, intrusion prevention alarms, and safety deposit boxes.

2.3. Examples of CPTED crime prevention

2.3.1. Japan

Japan has been conducting CPTED studies on housing and transportation. As for the application of CPTED in Shinjuku, Shinjuku Station, where Tokyo Metropolitan Government is located, serves as a traffic node of Tokyo, so it can be said that it is an area with a lot of commercial facilities and floating population along with many financial institutions. Due to these characteristics of Shinjuku, various types of violent crimes such as rape, murder, and robbery have frequently occurred in Shinjuku in the past. The city of Tokyo has been constantly striving to improve the image of Shinjuku, and as one of the measures, the concept of CPTED through CCTV has been introduced.

CCTVs installed in the central commercial area of Shinjuku generally have separate CCTVs installed to monitor general streets in addition to financial institutions and convenience stores so that the concept of CPTED is utilized not only for pedestrian safety but also for preventing traffic accidents. In addition to these CCTVs, Shinjuku also introduces an environmental design method that can induce natural monitoring of indoors and outdoors by decorating the exterior walls of public telephone booths with transparent glass. In the case of Roppongi Hills and Midtown, it is a district that reorganizes old towns and represents Tokyo’s urban regeneration. Urban regeneration is one of the main concerns of CPTED, and we must look through it carefully as it is similar to our case that is currently undergoing an active urban renewal project.

First, in terms of CPTED, the common feature of these areas is that all the exterior glasses of buildings are designed transparently. This shows that it faithfully reflected one of CPTED’s strategies to prevent crime through natural surveillance. Particularly, the common part of the building, such as the stairs, was placed where it is easily visible from the outside and the height of the veranda and the position of the window were designed to make it difficult for the criminals to enter. In addition, a number of emergency bells were installed in areas where security was weak, such as parking lots, and lighting facilities were installed at pedestrian aisles at intervals of 5 meters so that it is possible to adjust the distance of streetlights and the intensity of illumination to fit local characteristics[6].

2.3.2. United states

In the United States, there have been many attempts to prevent crime traditionally to protect one’s own property. Crime Prevention CPTED through Environmental Design, which started in the 1970s, illustrates this phenomenon. These movements are creating fortress-like cities by using fences and walls as well as attempts at designing like building physical obstacles to prevent crime.

In the United States, the National Crime Prevention Institute provides CPTED standards and programs, and The Guide to the City Security Policy published by the American Urban Planning Association(CPA) is designed to apply CPTED technology to all cities. In particular, CPTED and security technologies are involved in the design of public buildings, public spaces, transportation, street scenes, urban design, communication network, and etc. Each province has established CPTED design standards and ordinances for various areas such as school safety standards, lighting and accessibility standards(Virginia), and nighttime retail crime prevention standards(Washington state), and it has been actively researched mainly by the US Institute of Justice.
It is already well known that the use of CPTED for alcoholics, drug addicts, and social outcasts in bus terminals, and homeless people in shopping malls around New York and New Jersey is highly effective in preventing crime.

3. Discussion

Despite the advantages of CPTED, the dispute over the use of CCTV, which play a key role of CPTED in Korea, is ongoing now. The issue over CCTV dispute can be said to originate from the conflicting opinions on CCTV installation and operation.

On the positive side for CCTV, they argue that it is effective in eliminating certain types of crime, promoting immediate reactions to crime, and alleviating fear of crime. It also provides a deterrent effect by informing that crime is being prevented and monitored, and allows police to be alert at an early stage to prevent dangerous situations from further developing seriously[7].

On the contrary, those who have negative attitude see little or no effect on crime prevention and suppression of CCTV. In addition, they point out that there may be the infringement of fundamental rights such as portrait right, confidentiality and freedom of privacy, information self-determination, and privacy rights.

CCTV is also the result of social exclusion and targeting the public in vulnerable areas[8], criticized for the potential to infringe on personal freedom and being used to promote the oppressive forms of social control, and separating vulnerable groups and ignoring the freedom to use space by social control when using CCTV in public places[9].

4. Suggestion

However, this discussion is approaching the evaluation of the effectiveness of CCTV simply based on the crime prevention and deterrence. Since the actual purpose of CCTV is to reduce fear of crime and crime, so fear of crime is the issue as important as crime.

If the effectiveness of CCTV is assessed based on crime prevention and deterrence in the past, the value of CCTV should be improved because it is only a fragmentary evaluation of CCTV. It is also important to understand the relationship between fear of crime and CCTV when evaluating it.

It is required to approach CCTV in various ways in order to accurately understand the purpose of CCTV. In other words, if the preceding studies evaluate CCTV focusing on the aspect of crime occurrence and inhibition, it is also necessary to conduct empirical research focusing on reducing fear of crime, approaching with a different aspect.

5. References

5.1. Journal articles


5.3. Books


5.4. Additional references


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Abstract

It is a very big problem in our society to cause anxiety to the people because of the terrorism against politicians. In this respect, it is necessary to prepare new measures against the terrorist attacks on politicians. Despite the many security measures that have been carried out so far, there is a need for a new improvement plan due to the change of the age, new security equipment, and various new terrorist attacks taken place. Therefore, this study aims to identify the current problems of security for the politician and to propose a new improvement plan.

This study is a case study analyzing terrorist incidents targeting politicians, after analyzing the causes of security failures based on the cases of terrorist attacks on politicians in Korea, it suggested the following improvement plan.

First, in order to improve the crisis management response and the ability of security performance in the event of the terrorist attack against politicians, it is required for the security personnel to have excellent professional knowledge on politician security and excellent practical ability. When it comes to having these qualifications required, it is necessary to study the professional knowledge at university first, along with having excellent practical skills.

Second, in order to improve the problems of inspection and preliminary detection that can be found through cases of terrorist attacks against politicians, it is vital to increase security personnel for politicians to develop the ability to detect in the field, to increase the number of inspection manpower before and during the security service for frequent inspections, and to improve the efficiency of the inspection through the dedicated area inspection.

[Keywords] Korea Crisis, Political Security, Politician Terror, Security Guard, Korean Politician

1. Introduction

There are various types of terrorism against politicians occurred not only in Korea but also around the world. Terrorism against politicians is not a recent phenomenon, but various forms of terrorism have occurred in the past as well. When the terrorist attack against politicians occurs, we can be informed the news through mass media.

Terrorism has become a key factor of social unrest in the 21st century as a new order of world society has been formed. And such terrorist acts are now becoming more serious as a global problem. With the anxiety against the global problem of terrorism, people are witnessing the numerous of events that offer a variety of hazards to politicians who are politically active on behalf of the nation or the people.

This international problem of terrorism has led to terrorist attacks against politicians representing the country and the people, which could result in the lives of ordinary people full of anxiety. It is a very big problem in our society to cause anxiety to the people because of terrorism against politicians. Therefore, a
new improvement plan against terrorist attacks against politicians is needed.

We do not know about when, where, how the terrorist attacks take place and who will be the victim of them and cannot anticipate the scale of terrorist acts to occur and the types of terrorism, either. Thus, politicians have to live and work in dangerous environments due to the risk of terrorism.

Since the terrorist attack is beginning to occur from the moment when the victim is exposed to the outside, the security against the victims can be said to be the beginning of the security before the moment when terrorism is possible to occur. We need to prepare terrorism for the safety of these politicians. Despite the many security measures that have been carried out so far, however, there is a need for a new improvement plan due to the change of the age, new security equipment, and various new terrorist attacks taken place. Therefore, this study aims to identify the current problems of security for the politician and to propose a new improvement plan.

2. The Scope and Method of Research
2.1. Research scope
This study focused on both theoretical consideration of the concept and characteristics of terrorism, the concept and necessity of security and politician security and analyzing the status of Korean politicians' security and the cases of terrorist attacks on Korean politicians in order to perform a new improvement plan for the politician security.

In addition, this study analyzed the cases of terrorisms against Korean politicians after liberation in terms of time and studied political terrorism cases reported in the media in terms of space to achieve the generalization of the study.

2.2. Research method
This study is a case study analyzing terrorist incidents against politicians and analyzed the causes of failures of security guards based on cases of terrorist attacks against Korean politicians.

It referred to domestic and foreign books and research papers on terror and terrorism, including domestic and foreign books and research papers on various security theories and theoretical considerations of politician security.

3. Literature Review
3.1. Terror and terrorism
It is very difficult to make a clear definition of terrorism because it differs depending on the viewpoint of scholars and experts on terrorism. Kang Young-suk(2016) also said, "It is very difficult to know the nature or general definition of terrorism because there are too many complicated elements tangled"[1].

Terror is a natural psychological phenomenon, referring as "It is the source of the extreme fear that all humans will feel perplexed by threat or terror"[2].

The following <Table 1> are the definitions of terrorism[3].

<table>
<thead>
<tr>
<th>Scholar / institution</th>
<th>Definition of terrorism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee Jae-eun</td>
<td>Behaviors to cause anxiety and fear to members of the national society by using violent means or non-violent means to achieve economic, social, and religious ideological purposes as well as political purposes.</td>
</tr>
<tr>
<td>US Department of defense</td>
<td>To pressure and intimidate the government and society to achieve political, religious, and ideological goals and threaten the unlawful use or use of force or violence against individuals or property.</td>
</tr>
</tbody>
</table>
3.2. Politician security

The term of politics is often used in international politics and a political sphere within civil society, including not only in the institutions and administrations of the nation but also in the struggle for power among the individual nations and in the decisions of the various groups within the country. Such a key reason for the broad use of the term of politics is because all groups and societies have the function to make unified decisions that bind all of their members, and the term ‘political’ or ‘political’ is used to describe such a function or the various phenomena that arise from it[4]. Given the dictionary meaning of security, it is defined as "guarding and protecting". In other words, it means protecting the person from abrupt intrusion or from various incidents[5].

The security refers to all activities that are carried out to eliminate the direct and indirect hazards for the protectees. Direct hazard is the harm directly applied to the body of the protectee, such as an injury or murder, and indirect hazard refers to the harm affected indirectly to interfere with the normal life of an individual by directing the situation of defamation or embarrassment to destroy dignity or honor and by kidnapping of a family to cause the psychological pressure[6].

4. Cases and Problems of Korean Politician Terrorism

The following <Table 2> shows examples of terrorism in Korea and its problems.

<table>
<thead>
<tr>
<th>When</th>
<th>Case name</th>
<th>Target of terrorism</th>
<th>Contents</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 1974</td>
<td>Assassination attempt</td>
<td>Former president Park Chung-hee</td>
<td>At the ceremony of the 29th anniversary of Korea’s liberation day, while President Park Chung-hee was reading the memorial, Mun Sek-kwang, a second-generation Korean Japanese, failed to assassinate President Park and shot the right head of Mrs. Yuk Young-su instead.</td>
<td>Inspection security performance ability</td>
</tr>
<tr>
<td>October 1983</td>
<td>Aung San mausoleum bombing case myanmar</td>
<td>Former president Chun Doo-hwan</td>
<td>This is the case of blowing up the graveyard to assassinate President Chun Doo-hwan by North Korean secret agents at the Aung San mausoleum in the capital Yangon before the event when former President Chun Doo-hwan visited Myanmar officially.</td>
<td>Pre-detection crisis management response</td>
</tr>
<tr>
<td>June 1999</td>
<td>Painted eggs thrown case</td>
<td>Former president Kim Young-sam</td>
<td>When former President Kim Young-sam arrived at Gimpo Airport for a visit to Japan, shaking hands with about 100 people, Park Ui-jung (72 years old, at that time) threw an egg containing oil paint to the President.</td>
<td>Inspection security performance ability</td>
</tr>
</tbody>
</table>
### 5. Improvement Plan for Korean Politician Security

#### 5.1. Security professional

In order to improve the crisis management response and the ability of security performance in the event of the terrorist attack against politicians, it is required for the security personnel to have excellent professional knowledge on politician security and excellent practical ability. When it comes to having these qualifications required, it is necessary to study the professional knowledge at university first, along with having excellent practical skills. However, most of the security guards are not majoring in security at present, which emerge as a big problem. Therefore, in order to reduce the incidents of terrorism against politicians and to improve crisis management response and security performance, the politician security should be a person who has completed a regular period of formal education at a university or professional institution and has completed practical training before the placement.

#### 5.2. Increase security personnel

If we want to improve the problems of inspection and preliminary detection that can be found through the cases of terrorist attacks targeting politicians, it is vital to increase security personnel for politicians to develop the ability to detect in the field, to increase the number of inspection manpower before and during the security service for frequent inspections, and to improve the efficiency of the inspection through the dedicated area inspection. However, due to the lack of budget and security experts, it is impossible to raise the number of security personnel. Therefore, it is necessary to increase the security personnel through cooperation with the police security agencies and private security companies at the event site. However, at this time, the security personnel who are to be selected should be composed of security guards who have a career as a politician among the police security agencies and private security companies.

### 6. References

#### 6.1. Thesis degree


#### 6.2. Books


6.3. Additional references


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