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## The Right Directions for Education in KOREAN HAPKIDO Dojang

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### Abstract

*In Asian society, martial arts education isn't simply regarded as what aims to improve fighting skills or build up a healthy body. Instead, that is accepted as what is of great ethical, moral and inner value as a way to become a decent human being.*

*Martial arts education that is based on traditional ethics has long contributed to character building, and hapkido Dojang are responsible for passing this education onto the next generations. Martial arts education is mainly provided for adolescents in hapkido Dojang, and the educational system of these Dojang are outstanding enough to make them serve as professional educational institutions to foster hapkido-enjoying people out of pure motives.*

*The educational goals that hapkido-related organizations pursue together are mental training, health promotion, self-defense, physical training and the transmission of cultural heritage. But there is a doubt whether hapkido Dojang make a genuine effort to attain these goals of education. Due to keen competition, most of the Dojang often distort the substance of martial arts education by slandering each other or merely by offering play- or game-centered programs for commercial purposes.*

*In a word, it cannot be denied that there is something wrong with traditional martial arts education. Martial arts are basically of educational importance as a means to train the body and acquire skills to learn how to live as a decent human and as an eligible member of the world.*

*The purpose of this study was to examine the right directions for martial arts education in hapkido Dojang in modern capitalistic society characterized by advanced material civilization, limitless competition and individualism.*

*Under the circumstances, hapkido education may just be regarded as a competitive sport if it only focuses on physical training, acquisition of skills or winning. There is a great challenge for hapkido, which is to turn into the kind of martial art that can contribute to the edification of people along with other martial arts in a manner to be appropriate for modern times.*

*When it comes to the right direction for hapkido education, competitive commercial logics should be eliminated among hapkido Dojang above all. The Dojang should renew themselves as the places of oriental mental training. They should value mental culture to foster well-rounded people of character who realize the way through physical training, and trainees should be taught to be courteous, considerate, humble, build up character, use decent language and respect others. Modern people's lives should be sublimated in art in pursuit of human happiness and enjoyment.*

*Hapkido instructors should be future-oriented and shift their way of teaching with a sense of mission to nurture competent people necessary for society through mental training instead of merely sticking to teaching skills or how to win a competition.*

**[Keywords]** Martial Arts, Hapkido, Dojang Education, Character Education, Cultivation of Morality

## 1. Introduction

Hapkido has spread and continued to improve not only in Korea but all over the world as one of representative Korean martial arts along with taekwondo, judo and kendo since it was introduced by Choi Yong-sool in 1945 after the liberation of the nation. According to the data released by the Ministry of Culture, Sports and Tourism, there were 14,076 Dojang in Korea as of late December, 2014, and hapkido Dojang accounted for 17.8 percent of the gyms. This rate is quite great considering the number of martial arts[1].

Now, hapkido is a martial art that has been entrenched in Korean society as part of physical culture. That is of significance as education for physical training and character building, and continues to improve to fit into modern society. Also, hapkido is recognized among people in general for its cultural value. In fact, however, hapkido matches aren't less prevailing yet in comparison with other martial arts, and efforts are being made to step up the development of hapkido matches[2].

The quantitative increase of hapkido Dojang doesn't necessarily seem to be followed by qualitative growth. There is a growing tendency for hapkido Dojang to rely on promotional gimmicks to attract trainees instead of publicizing outstanding performance or the importance of hapkido as a way of character building because of a commercialization trend and fierce competition. This tendency results in allowing unqualified or uncertified instructors to be in charge of martial arts education[3]. Nowadays, school education is being criticized in that it fails to be well-rounded education due to the national policy that merely focuses on college admission, and the necessity of traditional martial arts education is increasingly considered important.

In Asian society, martial arts education isn't simply regarded as what aims to improve fighting skills or build up a healthy body. Instead, that is accepted as what is of great ethical, moral and inner value as a way to become a decent human being[4].

Martial arts education that is based on traditional ethics has long contributed to character building, and hapkido Dojang are responsible for passing this education onto the next generations. Martial arts education is mainly provided for adolescents in hapkido Dojang, and the educational system of these Dojang are outstanding enough to make them serve as professional educational institutions to foster hapkido-enjoying people out of pure motives.

The educational goals that hapkido-related organizations pursue together are mental training, health promotion, self-defense, physical training and the transmission of cultural heritage[5]. But there is a doubt whether hapkido Dojang make a genuine effort to attain these goals of education. Due to keen competition, most of the Dojang often distort the substance of martial arts education by slandering each other or merely by offering play- or game-centered programs for commercial purposes[6].

In a word, it cannot be denied that there is something wrong with traditional martial arts education. Martial arts are basically of educational importance as a means to train the body and acquire skills to learn how to live as a decent human and as an eligible member of the world.

The purpose of this study was to examine the right directions for martial arts education in hapkido Dojang in modern capitalistic society characterized by advanced material civilization, limitless competition and individualism.

## 2. The Nature of Education in Martial Arts Dojang

### 2.1. The educational meaning of martial arts

Martial arts are a significant means of education in Asian society, and has contributed to the improvement of ethical values through character building. Nonetheless, many people still think developing skills, sparring and self-defense are the main goals of martial arts training, which are just the external aspects

of martial arts. It should be noted that in a strict sense, the object of martial arts training is to seek after moral values through training and to build up character, not something related to the external aspects.

Thus, traditional Asian martial arts are in pursuit of inner ethical value, namely training oneself to become decent human beings. Therefore the relationship of the body and mind is understood in the process of training as an integrated relationship, not a separated one. This ideology is associated with the meaning of asceticism, which is a unique thought of Asia. That is, true wisdom can be gained through the integration of the body and mind, not by a simple logical thinking. In this sense, the way in traditional Asian martial arts is not a sort of concept but a sort of behavior of practice[4].

In hapkido Dojang, trainees should be trained to become courteous, upright people of character, and superb educational methods should be used, which are appreciate for Asian view of the body and Asian culture that emphasizes self-establishment, self-education and subjectivity. And trainees also should be taught to acquire social values.

A lot of competitions have been held these days along with the development of hapkido, but unlike the cases of other martial arts, the win-at-all- costs mentality must not be allowed to take root in hapkido. This mentality has nothing to do with the essential meaning of martial arts, and this is not what martial arts pursue, either.

## **2.2. The meaning of well-rounded education**

The traditional Asian martial arts are under the huge influence of morality and ethics, which are the philosophical foundations for the martial arts. Asian human education focuses on fostering well-rounded people, and they argue that education of the body and education of mind should both be conducted at the same time to realize well-rounded education, and that this is genuine human education. In this perspective, education that focuses on only one of the body and mind is considered imperfect education that is of little value[7].

Accordingly, the technical characteristics of hapkido as a means of well-rounded education should well be understood to actualize the kind of martial arts education that can train both the body and mind together.

First of all, courtesy is considered important in hapkido training. Trainees should sit upright on their knees and bow low to each other and to their instructors so that they could learn to humble themselves and respect each other. Second, a study established that the breathing method of hapkido makes it possible to gather energy into the lower part of the abdomen and then to send it to every peripheral nerve of the body through the movement of the body and through consciousness, and that the emphasis of inner training enables trainees to strengthen their own spirits through competing with themselves, not with others, and thereby has good effects on mental health [8]. Third, break fall is a skill to protect one's own body without being injured as much as possible when one falls down himself or herself or by the force of the other. The training of break fall requires patience because one has to keep bumping his or her body into the mat. Long break fall and high break fall are expected to make a contribution to the improvement of confidence and leadership as trainees can cross the obstacles a little higher and a little further in the course of practicing running, throwing themselves at the target and then landing safely. Fourth, techniques are representative skills of hapkido that make it differentiated from other martial arts. This term refers to all the skills to protect not only oneself but also the attacker safely and then to dominate the attacker. The techniques enable the trainee to dominate the opponent using the force of the opponent when the opponent begins attacking first, and enable both of the attacker and the defender to be considerate of each other during training[9].

## **3. The Right Directions for Education in Hapkido Dojang**

### **3.1. The transmission of cultural heritage**

Cultural heritage is a mirror of the philosophy, religion, education, thoughts and history of the race into which the race's souls and spirits are soaked, and that is the foundation for social norms and order in the region. As Korean martial arts that are based on cultural heritage have evolved under the influence of it, the martial arts are definitely built on Korean cultural heritage. For this reason, it could be said that martial arts are behavioral patterns in which there are formality and systematicity and which have undergone the process of civilization.

Hapkido education is significant not as a simple physical training based on cultural heritage but as a mental culture to foster well-rounded people of character who learn the way through physical training. So that is differentiated from western sports that are merely to measure power and skills. This is of philosophical, mental value in that it is human education which stresses courtesy, ethicality and morality.

Hapkido education should be established as an artistic training culture for character building in that it can technically reach the level of the way. So the kind of training culture that can establish the right values of character building should be created through hapkido education.

### **3.2. The place of character education**

In modern capitalistic society, individualism is rampant among teens because of advanced material civilization instead of joining forces to achieve their common goals. Both of parents and teachers pay attention to their grades only without focusing on character education, and even spoiled or unfaithful students are forgiven provided that their grades are good. The lack of character education provokes adolescents into school violence, bullying, or inhuman or nonethical behaviors. Children who grow in such a social climate believe that they must be ahead of others, and that it's useless to be considerate of others or to seek after public interest. Now such an inhuman culture is looked upon one of serious social issues[10].

Character is different from personality or individuality. This is a norm that humans

should pursue. Unlike knowledge-centered education, character education is in pursuit of building up character by putting in practice what's moral[11].

There are various skills in hapkido, and techniques could be said as the representative skills of it. Techniques are joint skills to defend oneself through striking, kansetsuwaza and throwing using the force of the opponent when the opponent attacks first. Their characteristic is to exchange skills in a manner to be in concord with each other without competing excessively[12]. Hapkido training seems to be a good martial art education that is useful for both physical and mental training by accelerating physical development, by teaching how to be courteous and considerate and by helping building up character.

The goal of hapkido training is to foster eligible democratic citizens who are courteous, patient, caring and seek after coexistence. Therefore it's quite important for hapkido gyms to serve as the places of character education for adolescents who will become the mainstay of our country.

### **3.3. The cultivation of morality**

Morality refers to inner independent disposition or qualification that one puts into practice what's socially accepted as moral on his or her own volition. This disposition may be innate, but it also can be acquired through learning, which is called moral education[3].

In general, martial arts training focuses on fostering morality rather than intellectual abilities, and requires habituation rather than just receiving education. A habit is a sign of morality, and trainees can acquire martial arts by repeatedly keeping practicing the motions of martial arts. What matters in building up character is not technical training but sparring activities with others. This type of training enables trainees to learn not only skills but how to behave in sparring or real violent situations where it's difficult for them to keep themselves in control. So they are able to teach themselves how to behave to others[13].

Korean hapkido trainees are mostly adolescents. As they are still immature, moral education should be conducted repeatedly on a habitual basis in hapkido Dojang. In other words, instructors should set an example of how to behave morally. They should continue to deal with trainees in a humble, respecting, gentle, friendly and mature way, use tender words yet be hard on themselves.

### **3.4. The place for self-realization**

Everybody has to keep being educated individually or in group from birth to death, and life could be said as the process of socialization or self-realization. In this perspective, martial arts education comes into spotlight as a new discipline for human education, and is especially expected to have very good effects on youth education[14].

Martial arts that are in possession of Asian characteristics are highlighted as sports to satisfy high-dimensional human needs through the harmony of the body and mind, and especially as sports to meet needs for psychological or social self-realization. And the goal of martial arts education is to promote physical and mental health, to acquire ways of defending oneself and to build the right life attitude[15].

Thus, martial arts education offers sociopsychological experience that is quite important for actualizing internal and external human values. Martial arts training enables trainees to evaluate themselves and understand the ways of the world, which serves, in turn, to have positive effects on society and actualize values that society pursues. Therefore the ultimate goal of martial arts training could be understood as the process of self-completion. In other words, trainees are able to have a good self-concept by gaining various achievement experiences that could improve their quality of life, and then they can even reach the stage of self-realization.

In order for hapkido education to advance into the stage of self-realization, what the center of the body and the lower part of the abdomen mean should be understood first of all. Probably it will take a lot of time to reach this stage of self-realization, but steady practice will make it possible to do that. To keep

a stable posture during the practice of techniques it's needed to practice applying force by drawing it from the center of the body(the abdomen and back). Basically, hands and foot are used in hapkido training, but these parts are actually driven by the force generated from the center of the body.

It's not easy to undergo hapkido training for a long time, but a prolonged, repeated training will make it possible to increase attention to reach the stage of self-realization in which even a quite challenging task can be achieved. Indeed, hapkido education is in pursuit of human happiness and enjoyment by sublimating modern human life into art.

## **4. Conclusion**

Korean hapkido has developed over approximately six decades since it was introduced after the liberation of the nation, being well established as a traditional martial art that represents Korean race's soul and spirit. Korean society experienced poverty-stricken tough times until the end of the 1980s during which hapkido developed as a Korean traditional martial art. At that time, there were many children in each family that was mostly large in size, and children were properly disciplined by their parents while they had meals together. In and after the 1990s, however, parents just allowed their children to have their own way along with the spread of nuclear families and a decrease in the number of children. Economic development and advanced material civilization have fueled individualism and fierce competition, which is concurrent with the collapse of ethics and disregard of character that are emerging as serious social issues.

Under the circumstances, hapkido education may just be regarded as a competitive sport if it only focuses on physical training, acquisition of skills or winning. There is a great challenge for hapkido, which is to turn into the kind of martial art that can contribute to the edification of people along with other martial arts in a manner to be appropriate for modern times.



Today hapkido education should follow the example of taekwondo education that is recognized in the United States. In the United States, taekwondo education is preferred by parents because it is faithful to the spirits of martial arts and offers character education by teaching trainees to greet politely and abide by rules, and it is highly recognized as a mysterious marital art of the Orient and as an alternative to mental training [16].

When it comes to the right direction for hapkido education, competitive commercial logics should be eliminated among hapkido Dojang above all. The Dojang should renew themselves as the places of oriental mental training. They should value mental culture to foster well-rounded people of character who realize the way through physical training, and trainees should be taught to be courteous, considerate, humble, build up character, use decent language and respect others. Modern people's lives should be sublimated in art in pursuit of human happiness and enjoyment.

Hapkido instructors should be future-oriented and shift their way of teaching with a sense of mission to nurture competent people necessary for society through mental training instead of merely sticking to teaching skills or how to win a competition.

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## The Therapeutic Potential of Compound K, an Intestinal Metabolite Ginsenoside in SKELETAL MUSCLE DAMAGE

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### Abstract

*Excessive exercise causes the loss of inherent physiological function of the muscles through skeletal muscle lesioning. This damage can induce various complications such as nerve injury, vascular lesions, and osteocytes damage. At the molecular level, reactive oxygen species(ROS) play an important role in the development of muscle damage. Although the excess production of ROS induces oxidative stress, these molecules are inevitably produced during the respiratory process of the human body. Therefore, ROS are important molecules in both physiological phenomena and as etiological factors. In the present review, we will address the role of antioxidants in skeletal muscle damage. Specifically, we will review studies suggesting that the intake of ginseng(the root of Panax ginseng C.A. Meyer) could be a strategy for treating skeletal muscle disorders. Ginseng is the most commonly consumed herbal medicine for increasing stamina in athletes. However, numerous athletes consume ginseng without understanding its pharmacological effects on the body. Hence, we will discuss the role of compound K in the biological and pharmacological effects of ginseng. In particular, we suggest that compound K is potentially useful against muscle damage.*

**[Keywords]** Antioxidant, Exercise, Skeletal Muscle Damage, Panax Ginseng C.A.Meyer, Compound K

### 1. Introduction

The World Anti-Doping Agency(WADA), which was established by the International Olympic Committee(IOC), regulates sports-related doping. However, numerous athletes attending several international competitions still make the frequent mistakes of causing damage to their health or even death through medication abuse and misuse. Therefore, it is necessary to develop a reliable treatment to protect athletes. Natural compounds are rich in antioxidants that are essential to improve disease risk factors associated with reactive oxygen species(ROS) generation in the human body[1][2].

Especially, a recent influential medical report documented that ginseng has a central medical role in maintaining physical activity and psychological stability[3]. Compound K is

an intestinal bacterial metabolite of ginsenoside. It has been reported to possess various pharmacological activities such as anticancer, antidiabetic, antiviral, anti-inflammation, anti-vascular disorders, and anti-osteoarthritis[4]. However, its protective effect on skeletal muscle damage remains unclear. In this study, we aimed to discuss the potential efficacy of compound K against skeletal muscle lesions. This review will demonstrate that compound K may be a potent muscle recovery agent that acts by regulating ROS-induced muscle damage.

### 2. Excessive Exercise-Induced Oxidative Stress in Skeletal Muscle

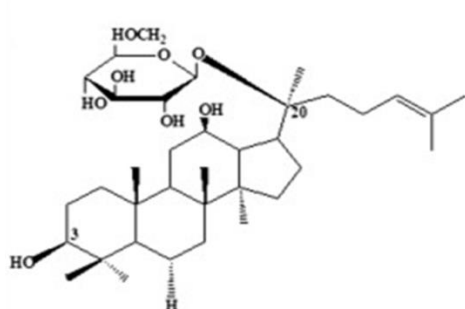
\*Funding Agency: This research was supported by Basic Science Research Program through the National Research Foundation of Korea(NRF) funded by the Ministry of Education(2015R1D1A4A01019776).

Regular exercise activates the antioxidant enzymes in the human body, which are involved in several beneficial responses such as the reduction of lipid peroxidation, protection against tissue damage, and the improvement of endogenous ROS scavenging abilities. However, prolonged intense physical activity has been reported to lead to adverse effects in the muscle such as hyperfunctioning, temporary immunosuppression, and muscle cell damage[5][6][7]. Especially, repeated muscle contraction through high-intensity exercise is implicated in the accumulation of ROS, and the consequent myocyte death can lead to fatal injuries in athletes[8]. While muscle injury induces lesions and trauma, the membranes around the muscle tissue are also gradually damaged, leading to the loss of inherent physiological functions. Therefore, the regulation of ROS generation during exercise is critical and relevant to ensure recovery from muscle damage and improvement of performance[9][10][11].

### 3. Compound K

Ginseng, the root of *Panax ginseng* C.A. Meyer, is the most widely consumed herbal medicine worldwide. The major active component of ginseng is a saponin or ginsenoside, which has been identified in over 80 kinds of ginseng glycosides from various species. Ginsenosides are classified as protopanaxadiol, protopanaxatriol, oleanolic ginsenosides, and ginsenoside metabolites. <Figure 1> shows the chemical structure of a ginseng metabolite saponin, compound K, which is synthesized by the intestinal bacteria after the intake of ginseng.

**Figure 1.** Chemical structure of compound K.



(20-O-β-(D-glucopyranosyl)-20(S)-protopanaxadiol)

## 4. Pharmacological Effects of Compound K

Recently, various studies have reported that ginsenosides exhibit a diverse range of pharmacological effects against cancer and degenerative diseases. Moreover, compound K, an intestinal metabolite ginsenoside, has various pharmacological activities in vivo and in vitro.

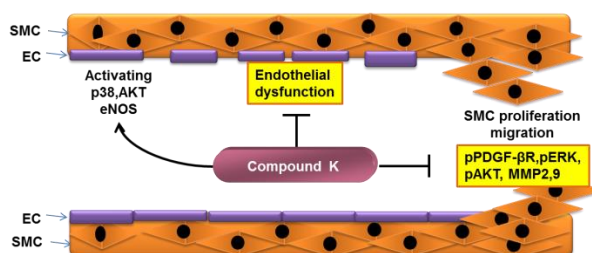
### 4.1. Anti-vascular disorder effect of compound K

Endothelial dysfunction and the activation of vascular smooth muscle cells such as their migration and proliferation are key mechanisms in the development of vascular lesions. These signaling pathways are involved in responses to intracellular oxidative stress and mitogen-activated protein kinase(MAPK) signals[12][13]. MAPKs consist of three kinases, extracellular signal-regulated kinase(ERK) 1/2, p38 MAPK(p38) and c-Jun N-terminal kinase(JNK).

As shown in <Figure 2>, compound K controls the major cellular mechanisms in the pathology of vascular disorders. Compound K induces the defense mechanisms that enhance the expression of endothelial nitric oxide synthase(eNOS), MAPKs, and protein kinase B(PKB, AKT) in endothelial cells. Furthermore, compound K diminished the migration and proliferation of smooth muscle cell through the regulation of phosphorylated(p)ERK[14].

Some studies and our present claim suggest that compound K suppresses the generation of ROS and MAPKs. Therefore, compound K is a potential therapeutic agent as well as a regulator of MAPKs.

**Figure 2.** Effect of compound K on vascular disorder.



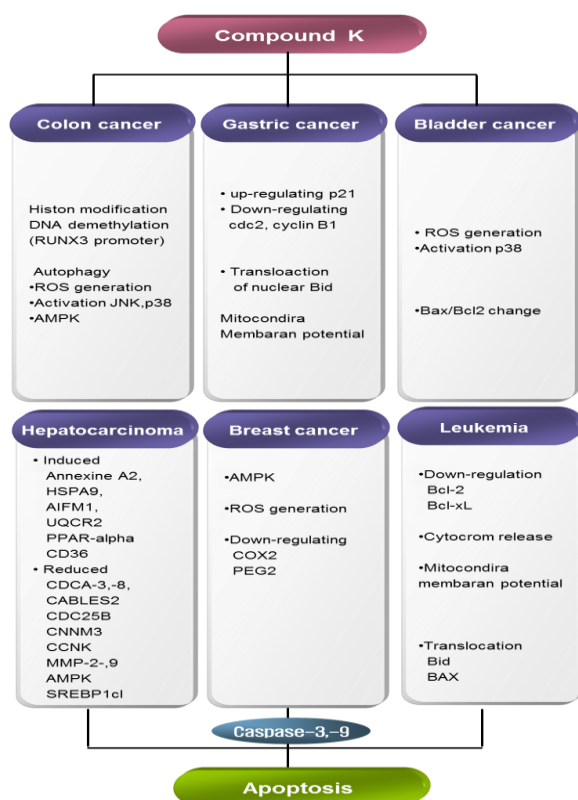
Note: SMC: the smooth muscle cell, EC endothelial cells, eNOS: endothelial nitric oxide synthase, pERK1/2: phosphorylated extracellular signal-regulated kinase

1/2, pPDGF-βR: phosphorylated platelet-derived growth factor-β receptor, pAKT: phosphorylated protein kinase B, MMP-2(-9): matrix metalloproteinase-2(-9).

## 4.2. Anticancer effects of compound K

In Western countries, cancer is the second leading cause of death. Hence, the development of effective chemopreventive agents from natural products is one of the important strategies for combatting cancer. Furthermore, diverse studies have reported the anticancer effects of compound K against numerous types of cancer cells such as colon, gastric, bladder, and breast cancers, as well as hepatocarcinoma and leukemia[15-32]. As shown in <Figure 3>, the anticancer effect of compound K induces cell cycle arrest and apoptosis. The major pharmacological mechanism of compound K involves the activation of caspases or membrane potential-related apoptosis. The major pharmacological effect of compound K underlying its anticancer effect is apoptosis through the regulation of MAPKs.

**Figure 3.** Molecular mechanism of compound K induced-apoptosis in diverse types of cancer.

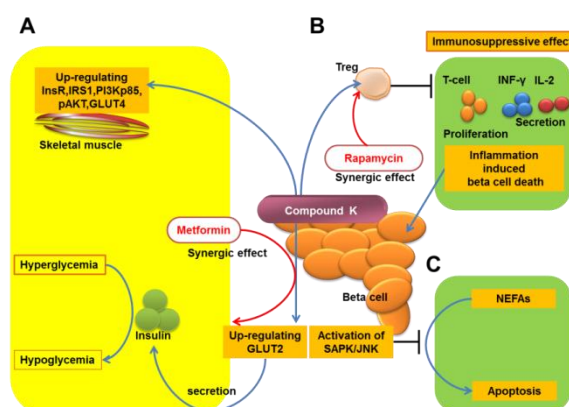


## 4.3. Antidiabetic effects of compound K

The western dietary behavior and sedentary lifestyle may influence the development of diabetes. The number of individuals with diabetes worldwide is estimated to be at 380 million in the year 2025. Type 2 diabetes(TD2) is characterized by glucose metabolism disorders through insulin resistance and pancreatic dysfunction.

Interestingly, compound K, an intestinal metabolite ginsenoside, has shown pharmacological activity in a TD2 model. As shown in <Figure 4>, Compound K induced hypoglycemia by enhancing the secretion of insulin. The mediating signaling pathway involves the regulation of glucose transporter 2(GLUT2), and co-treatment with metformin and compound K showed a synergic effect on the underlying secretion of insulin <Figure 4A>. Furthermore, TD2 is a complex disorder, which involves immunosuppressive responses and, consequently, the activation of T-cells induced the death of pancreatic β-cell. Compound K inhibits T-cell activation by promoting the regulatory T-cell(Treg)[33][34].

**Figure 4.** Molecular mechanism of compound K in diabetes.



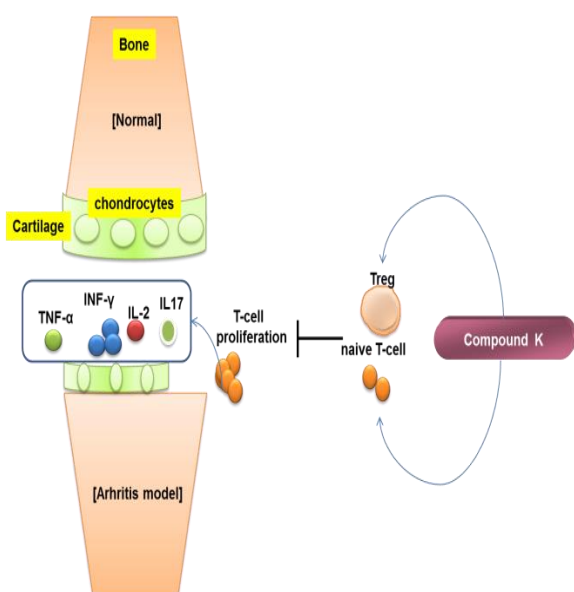
Note: Regulatory T-cell(Treg)

## 4.4. Effects of compound K in osteoarthritis

Rheumatoid arthritis is caused by a chronic inflammation and autoimmune responses in the joint. Although the immune system of the body regulates homeostasis, chronic inflammation induces irreversible damage to the cartilage, tendons, and bones. Especially, the production of cytokines is implicated in T- cell

activation. The pathogenic mechanism involves the increased secretion of cytokines, which is recognized as a crucial damaging event. As shown in <Figure 5>, the major effect of compound K in arthritis is likely the regulation of immune responses against inflammation. Compound K significantly induced Treg, consequently suppressing the T-cell proliferation and related cytokine production. MAPKs are also involved in the phenomena underlying Treg-cell development[35][36][37].

**Figure 5.** Molecular mechanism of compound K in diabetes.

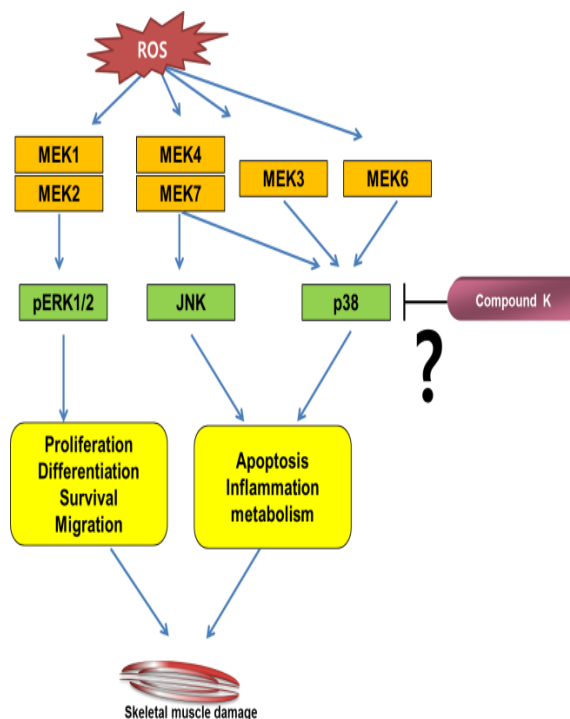


Note: TNF- $\alpha$ : tumor necrosis factor-alpha, INF- $\gamma$ : interferon gamma, IL: interleukin.

## 5. Conclusion

Based on the data highlighted in this review, we suggest that the molecular pharmacological mechanisms underlying the actions of compound K possibly involved ROS-induced MAPKs <Figure 6>.

**Figure 6.** Possible mechanism of action of compound K in reactive oxygen species(ROS)-induced skeletal muscle damage.



Note: MAPK pathway, namely RAS-Raf-MEK-ERK signaling, is the extracellular mitogen-bound signal pathways. MEK: mitogen-activated protein kinase kinase, ROS: reactive oxygen species.

Compound K, an intestinal bacterial metabolite of ginsenoside, is one of the therapeutic agents used against muscle damage by athletes during exercise. However, the data on the practical pharmacological and health implications of its use need to be further elucidated, especially for athletes.

In addition, further studies are required to establish the mechanisms underlying the antioxidant actions of compound K and determine its suitability for treatment. Ginseng has been used as a Korean traditional medicine for the enhancement of stamina. However, it is difficult for the body to effectively absorb the phytonutrients in ginseng because absorption capacity differs between individuals and involves the intestinal bacteria flora. The human intestine contains different types of intestinal bacteria, which help the digestion and absorption of nutrients. Therefore, we emphasize that there is an urgent need to improve the knowledge of suitable regimens and formulations for the rational intake of ginseng.

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## Effects of Police MARTIAL ARTS Education on the Body Composition and Physical Fitness on Job Performance of Police Ability to Crime Respond in College Students Majoring Police

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### Abstract

*This study aimed to College Students Majoring Police of Police Martial Arts Education on Body composition and Physical Fitness on Job Performance. Eighty voluntary subjects(40 exercise, 40 control) with an understanding toward the aims of this study were selected and their physical composition and Physical Fitness on Job Performance, before and after the Police Martial Arts Education program, were measured.*

*As for the physical composition, there were significant differences between pre- and post-values in the exercise group after completing the police Martial Arts Education. The change in physical composition has shown a significant change in EG group to weight, skeletal muscle mass, BMI, body fat percentage statistically and the physical composition has shown a significant change in CG group to skeletal muscle mass, BMI, body fat percentage statistically. Also, at the preliminary inspection between two different groups according to police military training, every variable of physical composition no significant difference was shown statistically, and at the post inspection, BMI, body fat percentage the significant difference was shown statistically. As for the Physical Fitness on Job Performance, there were significant differences between pre- and post-values in the exercise group. The change in physical variable in EG group has shown significant change in every variable such as grasping power in left hand, grasping power in right hand, sit-up, push-up, 100m, 1000m statistically, and the change in physical variable in CG group has shown significant change in grasping power in right hand statistically. Also, at the preliminary inspection between two groups according to the police military training has not shown a significant change in every variable, however, at the post inspection, a significant change has shown in every variable.*

*The study results indicate that the Police Martial Arts Education program is effective in improving the Body composition and Physical Fitness on Job Performance of College Students Majoring Police. However, there is a need for more specific exercise programs to be developed for the continual improvement of College Students Majoring Police performance in along with further studies to confirm the physiological benefits of those programs.*

**[Keywords]** Martial Arts, Police, Education, Body Composition, Physical Fitness on Job Performance

### 1. Introduction

The duty of police is a protection of freedom and rights of the public, so various anti-crime measures and programs have been introduced to fulfill their goals so called 'Police Effect' which are ensuring the safety and assets of citizens, maintaining peace, crime prevention and crime investigation[1]. Reflecting this, according to the data of Statistic Department, the crime rate of our society has been

doubled in 30 years, and it has been drastically increased since 2000. Also, violent crimes such as murder, robbery, arson, and rape are prone to increase every year, and it shows a high level of violent crime rate among Asian countries. According to the crime analysis data of Supreme Prosecutors' Office, during the last 30 years, the percentage of criminals has been increased by 2.5 times. As a part of this, even though the police policy that the government is currently

promoting emphasizes the importance of safe society through the four eradication of social evil and a decrease in violent crimes, it is estimated that the safety index that the public actually feel stays at a low level[2].

The policemen are putting their efforts into maximizing the 'police effect' through their duties, however, the public actually feel the existence of policemen when they consider them as a 'problem solving officer'. People admit the existence of the police when they consider them as partners who can give some solutions to the society problems together in addition to the duties that the policemen provide. In other words, the public expects not only the services which are provided by police unilaterally, but also the 'Communiy Oriented Policing'[3]. Because of this, policemen are under a lot of stress, and are also vulnerable to the chronic metabolic disease which is prevalent for contemporary society due to the lack of exercise. The police are more likely to lose their physical balance due to the frequent emergency duties and all-night working, and especially the local policemen are vulnerable to the cardiovascular disease because they usually overwork for a long time, and also they are pestered by drunken people[4]. As such, one's physical strength is one of the most crucial factor to policemen due to the patrols, arresting a suspect, and so on, however, even though they are still suffering from various disease and injuries, and death from overwork because of heavy workload and all-night working, no measure is clearly created. Since the policemen require strong stamina because of this characteristic of their duties, many police organizations from all countries of the world manage their own strength maintenance programs. In our country, a physical fitness test has been operating since 2000 including police military training, and also since 2011, when hiring

new recruits, they have increased the percentage of an examination of physical strength rate, and changed some events. To policemen, exercise has to be encouraged because it does not only enhance their health, but also has a positive impact on organization's productivity. Nevertheless, the biggest reason why policemen's lack of exercise does not improve is because of heavy workload, and also a lack of awareness of a chief of an organization that individual policeman's health improvement is also helpful for the performance of organization.

As such, continuous research is required to prove that the importance of health and an increase in physical strength have a direct impact on the policemen's performance of their duties and their health. Therefore, its purpose is to compare and analyze the effects that the police military training have on policemen's physical composition, and to provide as a basic material for development in strength for policemen's performance of one's duties.

## 2. Materils & Methods

### 2.1. Subject of study

This study was conducted by students studying police science from D university, and C university from March.2015 to December.2015, and was categorized into police military training group(EG/40people) and non-training group(CG/40 people). At the beginning, 50 people per group participated, however, some participants were excluded due to personal diseases, discontinuing further exercise, and so on(Eg/10 people, CG/8people), so participants were adjusted to 40 people per group. Physical traits of participants are shown in <Table 1>.

**Table 1.** Physical characteristics of subjects.

M±SD

	Age(yrs)	Height(Cm)	Weight(Kg)	BMI(kg/m <sup>2</sup> )	Bady fat(%)

Exercise group (N=40)	20.55 ± 1.41	172.65 ± 8.23	69.04 ± 10.16	22.62 ± 3.10	16.24 ± 6.74
Control group (N=40)	19.58 ± 2.54	173.88 ± 7.12	69.08 ± 14.06	22.85 ± 3.37	17.93 ± 6.04

## 2.2. Measure and method

### 2.2.1. Physical composition test

Physical composition test was measured after participants arrived at the test place, removed all metals on the bodies, urinated, and took a good rest for five minutes. With Inbody 720(Biospace Co., Seoul, Korea), weight(kg), BMI(kg/m<sup>2</sup>), WHR(%), body fat rate(%) were

measured. The subjects were instructed to stand erect, put their legs and arms apart, and put their bare foot on the labeled site of measurement, then hold the electrode with their hands. Then according to the order of the machine, the body compositions were analyzed.

### 2.2.2. Fitness test

**Table 2.** Physical fitness on job performance test.

Items	Model	Manufacturer
Push-up	DW-732E	Deawoo Sports Industry, Seoul, Korea
Sit-up	DW-731E	
Grasping power	DW-781	
100M Sprint	DW-765E	
1000M Run	DW-750A	

### 2.2.3. Data process

The data of this research has been processed with SPSS 20.0(window statistical package) by calculating average and standard deviation of all collected data, and the significance test for within-group was practiced by Paired t-test before and after experiment, and the significance test for inter-group was practiced by Independent sample t-test before and after experiment. At this time, a significance level was set up  $p < .05$ .

The change in physical composition according to the police military training is shown in <Table 3>. The change in physical composition has shown a significant change in EG group to weight( $p = .004$ ), skeletal muscle mass( $p = .000$ ), BMI( $p = .000$ ), body fat percentage( $p = .000$ ) statistically and the physical composition has shown a significant change in CG group to skeletal muscle mass( $p = .004$ ), BMI( $p = .000$ ), body fat percentage( $p = .000$ ) statistically. Also, at the preliminary inspection between two different groups according to police military training, every variable of physical composition no significant difference was shown statistically, and at the post inspection, BMI( $p = .028$ ), body fat percentage( $p = .001$ ) the significant difference was shown statistically.

## 3. Results

### 3.1. Change in physical composition

**Table 3.** The changes of physical composition.

M±SD

Items	CG(n=40)			EG(n=40)			t**
	pre	post	t*	pre	post	t*	

Weight(Kg)	69.08 ±14.06	69.47 ±12.49	-1.423	69.04 ±10.16	68.35 ±10.76	3.026 <sup>†</sup>	-0.017a -0.436b
Muscle mass(kg)	32.05 ±6.28	32.56 ±5.53	-3.007 <sup>†</sup>	32.86 ±4.23	34.00 ±3.61	-8.325 <sup>†††</sup>	0.679a 1.414b
BMI (kg/m <sup>2</sup> )	22.85 ±3.37	23.53 ±3.22	-6.592 <sup>†††</sup>	22.67 ±3.10	21.94 ±3.25	7.558 <sup>†††</sup>	-0.251a -2.238b <sup>†</sup>
Bady fat(%)	17.93 ±6.04	19.45 ±5.69	-7.449 <sup>†††</sup>	16.24 ±6.74	14.78 ±6.90	6.639 <sup>†††</sup>	-1.210a -3.376b <sup>††</sup>

Note: \* : Paired t-test between pre- and post-values in a group.

\*\* : Independent sample t-test' results between pre- and post-values in both groups(pre/a, post/b).

†,††, and ††† mean P < 0.05, P < 0.01, and P < 0.001, respectively.

### 3.2. The change in physical variable

The change in duty strength variable according to police military training is shown in <Table 4>. The change in physical variable in EG group has shown significant change in every variable such as grasping power in left hand(p=.000), grasping power in right hand(p=.000), sit-up(p=.000), push-up(p=.000), 100m(p=.000), 1000m(p=.000)

statistically, and the change in physical variable in CG group has shown significant change in grasping power in right hand(p=.000) statistically. Also, at the preliminary inspection between two groups according to the police military training has not shown a significant change in every variable, however, at the post inspection, a significant change has shown in every variable.

**Table 4.** The change in physical fitness on job performance.

M±SD

Items	CG(n=40)			EG(n=40)			t**	
	pre	post	t*	pre	post	t*		
Grasp- ing power	L	38.43 ±11.60	38.95 ±11.15	-0.941	41.36 ±9.63	50.68 ±8.13	- 15.836 <sup>†††</sup>	1.249a 5.439b <sup>†††</sup>
	R	43.05 ±9.11	40.09 ±9.61	3.434 <sup>†</sup>	45.82 ±8.63	55.70 ±6.82	- 18.998 <sup>†††</sup>	1.421a 8.472b <sup>†††</sup>
Sit-up	43.88 ±6.65	41.35 ±7.07	2.903	42.58 ±7.58	54.30 ±6.77	- 31.512 <sup>†††</sup>	-0.838a 8.507b <sup>†††</sup>	
Push-up	35.51 ±10.11	35.86 ±9.10	0.493	36.53 ±10.06	53.73 ±13.05	- 24.899 <sup>†††</sup>	0.457a 7.275b <sup>†††</sup>	
100m	16.05 ±9.00	16.14 ±1.06	0.240	18.06 ±8.31	16.31 ±1.86	-5.817 <sup>†††</sup>	1.058a 5.667b <sup>†††</sup>	
1000m	5.00 ±0.51	5.09 ±0.53	0.681	4.54 ±0.56	4.42 ±0.48	-4.151 <sup>†††</sup>	0.728a 6.619b <sup>†††</sup>	

Note: \* : Paired t-test between pre- and post-values in a group.

\*\* : Independent sample t-test' results between pre- and post-values in both groups.

†,††, and ††† mean P < 0.05, P < 0.01, and P < 0.001, respectively.

## 4. Discussion

This research is supposed to discuss about the effects after comparing and analyzing the influences of the police military training on the strength to perform duties targeting 80 majors of police related study(Training group 40, Non-training group 40). The duty of police renders it strictly necessary to arrest and observe criminals, so policemen require a high level of physical strength, and police organizations from all countries of the world manage their own fitness management program because of this characteristic of policemen where great physical strength is necessary[5]. In our country, the police organization operates police military training and physical fitness tests, and encourage police to exercise, and it shows some positive effects. Unlike elite physical training, the exercise of policemen not only improve one's health, but also contribute to productivity of an organization. Also, police military training as a program for promoting policemen's physical strength has a significant impact on arresting criminals, suppressing the mass, basic physical improvement for mission accomplishment, and it is also said that police military training such as self-defence martial art and arrest technique and so on has a great impact on general policemen's duty development[6]. According to research targeting policemen, KIM[7] says that participants of sports activities have a lower rate in depression and anxiety than non-participants of sports activities, and that the police military training for performing tasks and improving quality of work is greatly helpful for mental stability, self-realization, and health[8]. Also, in the research conducted by LEE et al[8], it is said that sports club activities of policemen enhance teamwork of the group, build trust, and contribute to job satisfaction.

According to the research of Sangyong PARK[9] on policemen strength, in the relation between the strength of policemen according to the job patterns and the risk of metabolic syndrome, an outdoor service employee is more likely to have more physical activities and fitness management programs than a indoor service employee, and it is also reported that the former has a higher level of

physical variable than the latter which matches the result of this research that the police military training has a positive impact to the police on the stamina to perform their duties. Also, it matches the result of the research[10] which says that the police with high strength levels are more likely to have a low BMI and a low possibility of metabolic syndrome, and it supports the result that the police military training impacts the body composition variables and strength of the participants. However, with the reality where even though most policemen recognize the importance of strength and the value of fitness, they are not able to work out, and the reality where the police suffer from various diseases, injuries, and death from overworking, no clear measure is created even though what they truly need is a high level of strength in order to practice their duties such as patrols and arresting criminals, What should be done first to improve the health welfare environment is investigating the exercise reality of the police and analyzing how the exercise impacts the performance of the organization. To sum up, the police military training is highly helpful for policemen's physical composition and stamina to perform duties, and it reduces stress and lowers the possibility of metabolic syndrome and diseases caused by stress of modern society. However, it is the reality that the research on how exercise contributes to the organization targeting policemen is unprecedented, and the systematic mutual programs should be created for improvement of ability to perform duties and great stamina for policemen.

## 5. Conclusion

This research aims to investigate that the police military training has a significant impact on policemen's physical composition and strength, to confirm that the improvement on policemen's performance on duty can be accomplished through the police military training, and to provide the basic source for improvement of strength to perform their duties.



To accomplish this goal, 80 students of police related majors were selected from D university and C university, and the following conclusion was drawn after observing the effects of the police military training on the physical composition and the stamina of policemen.

1. The change in physical composition in terms of the police military training has shown significant difference in weight, skeletal muscle mass, BMI, body fat percentage statistically among EG group participants before and after training, and between the groups, a significant difference has shown in BMI, body fat percentage statistically.

2. The change of duty strength variable in terms of the police military training has shown a significant difference in every strength variable such as grasping power in a left hand, grasping power in a right hand, a sit-up, a push-up, 100m, and 1000m statistically, and between the groups, a significant difference has shown in every variable such as grasping power in a left hand, grasping power in a right hand, a sit-up, a push-up, 100m, and 1000m statistically.

In conclusion, it is found to be true that the police military training is an effective way of exercise for strength for police duties, and creation of the professional fitness training programs for improvement in health from job stress and dealing with crimes, is thought to be an advancement in the policemen's ability to perform duties.

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## Republic of KOREA Police Arrest and Self-Defense MARTIAL ARTS Principles and System Review

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### Abstract

*Recently, indiscriminate crime has been committed against many unspecified victims regardless of victims by various violent actors. Even the police officers dispatched to the scene are not able to use weapons as well as weapons. In this social climate, the majority of people aspire to become safe societies, and demand stronger response to offenders. For this purpose, the police are considering active use of police weapons and equipment, while there are also voices of concern about human rights violations caused by frequent use of police weapons and equipment. In order to meet all of these social concerns and expectations, it is necessary to check the use of physical force by proper procedures and the police self-arrest coping coping at every stage and situation. Until now, the police officers on the front line were reluctant to use arresting because of the complaints from the inside and outside of the police organization due to various complaints brought by the arrested persons and the disadvantageous disposition of the personnel due to them, there was a lot of atmosphere. According to the psychological trend of these police officers, the education and practice of police self - arrest has also been turned off by police officers. The report without the killer is only a waste of time, materials and manpower, no matter how much you write. Our police have the ability to arrest the perpetrator so that they have confidence in their jobs. And police arrest martial arts is not merely a technique for arresting criminals. Police Self-arrest martial arts is a way to protect the police officer's own safety from various violent actors at the crime scene and to protect the arrestees from exposure to the violent environment. Also, when controlling for situation control, And arrest them. As such, police martial arts have a philosophy different from martial arts to suppress and kill opponents widely known in society as a whole. It is not only a technical method for arresting criminals, but a real police martial art who gives priority to the police officers and the security of the arrestees. In order to properly learn and use these police arrest martial arts, the principle and understanding of police self-arrest martial arts should be premised. The purpose of this study is to help the police officers understand and practice the police self-defense and arrest martial arts practically. In this study, the purpose of this study is to analyze the literature on the previous research and the principles and system of police self-defense and arrest martial arts. Posture.*

**[Keywords]** *Police Self-Defense, Arrest Martial Arts Principles, Framework, Position, Physical Force*

### 1. Introduction

Recently, strong incidents such as crime are constantly occurring, and the social anxiety felt by many citizens is higher than ever[1]. These social anxieties increase the voices demanding the police's resolute action against violent crime, and there is also a social consensus that permits the active use of police

weapons and equipment to increase police's ability to cope with crime. It is also an extension of this social atmosphere that many on-site police officers use a tape-type shock absorber to suppress a suspect in a murder case. However, the police officers who still work on the frontline are in a situation where they are oppressed by rioters who engage in drunken

riot and violence, When you fail, you still have a lot of dislike about using additional physical powers for suppression. The reason for this rejection is that the first is the accusation of excessive abuse of power, the responsibility for it, and the compensation for civil damages and punishment. The second is to avoid disadvantages of human rights received by accusing the inside and outside of the police organization for persistent sincere complaints filed by the police after the incident occurred. Third, the inability to use regular arrest training due to the adherence of such passive arresting techniques is not enough to use the arrest warrants in a situation where it is necessary to control and control the criminals. Instead, police accidents are constantly being committed to the spores. This is because they are reluctant to use arrest warrants. The report without the killer is only a waste of time, materials and manpower, no matter how much you write. Our police have the ability to arrest the perpetrator so that they have confidence in their jobs[2]. In this way, the situation control and control ability through police self - arrest will be a very important capability for the police officer to perform the right work. For this purpose, this study aims to present the principle and system of police self - arrest which is used in the situation where the field police officers confront the criminal.

## 2. Preceding Research

In a previous study on the systematic practical application of police self-defense and arrest warrants, arrest is an absolute necessity for the police to perform their duties faithfully. The police should use the legally authorized necessary force and force to effectively carry out police duties, and in order to protect themselves and their citizens, to stabilize the situation and to maintain a stable situation, Claiming to use[3]. In addition, they also encouraged the revitalization of stagnant martial arts training through martial case studies, group discussions, and participatory training that escaped existing martial training methods[4]. In order to analyze the current state of the police martial education system and to improve the quality of the martial arts

teaching staff and to improve the quality of the martial arts teaching staff, Emphasizing the need for the efficient operation of the facility, securing educational facilities, improving the sense of mission and quality of the leader, the need for scientific programs, and the physical and physical characteristics of the new police officer[5]. Thus, in previous researches, which have been dealt with so far, the attention of the command center has been increased, and budget support and expansion of educational facilities have been concentrated[6]. There has been no study of the police self-arrest or arrest warfare, which was very harsh on police officers who practically worked in the field. Part of the theoretical principle and system of police self-defense and arresting used to arrest criminals has been ignored. Therefore, in this study, the most basic principle and system for the police officers to acquire police self - defense or arrest is examined.

## 3. Principles and Systems of Police Self-Defense and Arrest Martial Arts

In order to understand police self-defense and arrest, we should consider the kind of force. Power has 'visible power' and 'invisible power'. The 'visible force' and 'invisible force' that we are talking about in this study are not supernatural powers coming from imaginary extraterrestrial. It is to distinguish between the human epidemiological viewpoint and the fixed idea that the general person consciously thinks and passes. Usually we are usually conscious of the use of force to describe a series of physical activities that use heavy lifting, that is, sweating using a flexor. This is called 'visible force'. In terms of human body mechanics, the action of stretching the arms or standing legs is actually exercising physical activity using the extensor muscle. Even though we are using the force, we have defined it as 'invisible force' because we think that we do not use force unconsciously. Therefore, in order to master the police self-assault and arrest, it is necessary to understand the concept of "visible force" and "invisible force" and the activities of the body muscles. And the on-site police officers must

learn to "concentrate their powers" in order to fully utilize police self-defense. There are various methods and techniques of each of the seniors who have practiced martial arts for a long time in the method of 'concentration of power', but in this study, I would like to introduce one way of breathing through this researcher. A lot of people often say difficulty with danson breathing. The short thought about danson breathing that the researcher understands is "concentration of consciousness through abdominal breathing". By practicing 'concentration of power' in this way, you will be able to use it properly in the field. It is also necessary to understand how to deal with force. In general, when physical violence is exercised, the natural phenomenon is normal when the opponent "pushes it, pulls it when pulled". This is also the instinct of the general public who have not mastered

other martial arts. When a criminal exerts physical force on a police officer in the field, a police officer who has mastered the police self-defense and arresting movements moves around the body of the police officer himself by using the conversion law (in conversion, out conversion, transverse conversion) It is shedding quickly and getting away from the goal of the criminal. Police Self Defense • The basic principle of arrest warfare is "to push your opponent in the direction that your opponent pushes, pull your opponent in the direction of opponent pushing, and push your opponent in the direction of pulling your opponent if you pull it". In addition, there are other principles such as the principle of torque (beating force around an axis), the principle of levering (knocking the opponent arm with a pole) [7].

**Table 1.** Police self-defense system.

Narrow sense	Police arrest	Basic self-defense, application, arrest, intensified arrest, Three-step rods arrest.
Wide sense	Police self-defense	Mental defense technique (forestalling control, Interpersonal relationship...) Self-defense (various martial arts, safe way of falling down, how to keep fit..)
	Police equipment & weapons use	How to cuff it, shooting, teaser application, the suppression art of fighting with rods and with a shield.

**Table 2.** Basic posture of police self-defense and arrest.

Natural posture	Standing naturally with straight legs and waist	
	Left natural	Left foot forward position
	Right natural	Right foot forward position
Self-protection Posture	A defensive posture with both feet slightly wider than their shoulders and lightly bending their knees.	
	Left self-protection	Posture with left foot forward.
	Right self-protection	Posture with right foot forward.

If you look at the application of the police self-defense and arrest martial arts through the case of the field, you can listen to the claims of the incident-related stakeholders without any physical force by receiving the 112 report and help request from the public in case of the police box and the police And

the complexity of emotions is solved by solving the complaints and complaints solely through the dialogue that counts their feelings. There is no definite terminology for solving the problem based on the soft eyes and long experience of the police officer, an incident mediator. Thus, this study defines the police Mental defense technique. And the fact that a traffic police officer simply wears

a police uniform is a precondition for passing vehicle drivers to move accurately according to the traffic police officer's signal. When a police officer asks police officers to investigate a police officer in a civilian uniform, the officer in charge of the police officer shows the police ID(ooo police officer working at the police station). In addition, This is also included in the scope of the police hijacking by controlling and securing the site with the granted power. In this case, the criminal is escaped by the pursuit of the criminal who is escaping differently, but the physical strength is exhausted, and the police abandon the escape and respond to the arrest. In this case, police officers require excellent physical strength and endurance. This is a category of police self-defense related to fitness training. When a criminal, who is the most dangerous situation on the front line, attacks and resists with a weapon, it is a narrow sense of police arrest that the police officer overrun and arrest the criminal with his or her own acquired skills and methods.

#### 4. Conclusion

The purpose of this study is to help police officers understand and practice police self - defense and arrest. To do this, we examined the literature analysis of the previous research and the principles, system, and attitude of police self - defense and arrest. Most of the local police officers had experience of using surveillance with the complaints of excessive suppression by using arresting equipment using forceps and force used mainly in taekwondo and kendo in using arresting liquor. This experience has resulted in a passive attitude to work in the field police officers. Most of the actions of the police police and arrest operation were mostly defensive, but the police officers were not able to arrest the arrestees by using pre - authorized physical force. As a result, the general public was watching the arrest operation, which was the easiest to use in the field, and there were many complaints and human rights violations. Therefore, the most important thing in establishing police self-arrest and arrest is to protect the safety of the police officer himself

and to consider the safety of the person arrested. In this regard, it was concluded that the understanding of police self - assault and arrest operation using the motion of soft motion, induction using the opponent's force and action of aikido is very necessary. In conclusion, police self-defense and arrest warfare are a new martial arts system that is different from Taekwondo, Judo, Kendo, and Hapkido, which have been treated as police martial arts in the existing police. Especially, it can be understood that it is the most difficult and difficult martial field in terms of the control and control of police officers and the persons to be arrested. At present, the time allocated to the police self-arrest training in the Police Department is abolished by the Police Training Institute until 2013, and the assignment of police self-defense and arrest training has been removed from various job courses, It has been changed to physical activity time, so it has only first aid and life sports activities, and there is no police self-defense or arrest training. It is a welcome fact that the placement of life physical education and first aid course has increased, but the abolition of the police self-defense and arresting subjects to arrest the criminal and protect the security of the police officer is very difficult to understand. Again, all the police officers in charge of the police and arresting courses take the place and spend some time each week, and the police officers should regularly conduct training and training on the police self-defense and arrest training and reconsider the police's original attitude. It is expected that the public confidence in police will be further improved by showing that police officers control and control the situation completely in the situation where the police officers face the criminal without being attacked by police officers.

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## Study on Guard Organization in KOREA and Usability of Judo as Guarding MARTIAL ARTS: Based on Ashi-Waza and Ura-Nage

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### Abstract

The objective of this study is to identify the Ashi-waza and Ura-nage based on the usability of Judo in the field of guarding in Korea. Interview has been conducted on participants with an experience of guarding along with analysis. Results from the questions from this study are as follows.

First of all, the usability of Ashi-waza in Judo when performing the self-protection in field of guard indicated that Hiza-guruma turned out to be the highest that 19 participants(22.9%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 14 participants(16.9%) on 8. The usability of Sasae-tsurikomi-ashi turned out to be highest that 21(25.3%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants (19.2%) on 8. The usability of Deashi-harai turned out to be highest that 23(27.7%) indicated 1 on a scale of 1 (very agree) to 9(very disagree) followed by 15 participants on 2. The usability of Okuri-ashi-harai turned out to be highest that 25 participants(30.1%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 17 participants(20.5%) on 2. The usability of Ouchi-gari turned out to be highest that 18 participants(21.7%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 8. The usability of Kouchi-gari turned out to be highest that 16 participants(19.3%) indicated 7 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 8. The usability of Osoto-gari turned out to be highest that 20 participants(24.1%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 2. The usability of Uchi-mata turned out to be highest that 16 participants(19.3%) indicated 8 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 9. The usability of Kosoto-gari turned out to be highest that 17 participants(20.5%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants (18.1%) on 8. The usability of Harai-tsurikomi-ashi turned out to be highest that 20 participants(24.1%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 2.

Secondly, as for the usability of Ura-nage in Judo for performing self-protection in the field of guard, Tomoe-nage turned out to be highest that 19 participants(22.9%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 2. The usability of Uki-waza turned out to be highest that 18 participants(21.7%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 17 participants(20.5%) on 8.

**[Keywords]** Martial Arts, Judo, Taekwondo, Kendo, Akido

### 1. Necessity of the Study

In Korea, guard has been started to maintain the social order or keep to be safe from the war while creating military organization. In addition, royal bodyguards were also the

start of the history of guard in royal palace to protect the safety of major figures such as kings in the nation from enemies inside[1].

On the other hand, as monarch ruled the nation with exclusive power in the period of

monarchy in the western words causing an increasing threat on safety of those opposing against the power. This has been regarded as a momentum for promoting the guard in monarch. Due to the promotion of the Enlightenment from the 16th to 18th Centuries, the public ended up becoming more socially aware that revolution occurred to bring down the regimes in England, America, and France. Guard in the current democratic form had been changed as of this period[2].

The usability of martial arts among guarding agents, as the last requirement for protection of VIP, has recently become an important part in the field of guard. However, current martial arts in guard are comprised of previous martial arts including Judo, Taekwondo, Kendo, and Hapkido. There is no particular concept of defensive techniques on martial arts in guard. Therefore, in-depth research is required on such martial art in guards.

In this study, it is intended to discuss the usability of defensive techniques in Judo that have been used in martial art in the guard in advanced level from exploration of simple martial arts in the guard. Research questions are as follows.

- 1)What is the usability of Ashi-waza of Judo in the guard?
- 2)What is the usability of Ura-nage of Judo in the guard?

## 2. Previous Studies

In a sense that this study has identified how those working for the guard thought of the usability the defensive skills of Judo, it represents exploratory characteristics. <Table 1> is the summary of previous studies related to the martial art in the guard and also major contents.

**Table 1.** Previous studies.

Classification	Researchers	Major Contents
Guard	Park (2014)	Reinforce the expertise and performance of guard of individual police officers and suggest issues and plans for improvement of education/training and selection of public workers[3].
	Ahn (2014)	Re-examine the guard education training that was regarded as a formal custom through analysis of guard education training and seek for the plans for improvement[4].
	Jo, Kim, Choi, Park (2013)	Exploratory analysis from the practical research on the working environment and education of our guard organizations by suggesting the necessity of how operation and techniques of guard shall be changed according to the external threat and also the threat on ones to be guarded[5].
	Kim, Kim, Jo (2012)	Deal with characteristics of works of individuals for efficient performance of the duties from official guard organizations in priority and explore the existence of difference among individual members and types in current official guard organizations[6].
	Jo, Choi, Kim, Kim (2013)	Exploratory study on the difficulty felt by guards in the field[7].
Guard martialart	Jung (2012)	Seek for the application of techniques and utilization as fundamental academic resources by incorporating the guard martial arts and techniques to protect the safety of ones to be guarded in case of unexpected situations during the guard activities[8].
	Kwon (2006)	Seek for the plans for connection and utilization plans with guard martial arts with the highest priority in safety of the ones to be guarded and also close guard works[9].

### 3. Study Methods

This study has been conducted in an order of consecutively collecting and analyzing quantitative and qualitative data in the framework according to the mixed research model by Creswell(2003). Quantitatively collected resources have been processed in computer according to Excel 2010, while qualitatively collected data have been processed in the use of interview. Considering how various surveys have recently been expanded in the use of computer network due to publicization of Internet, electronic survey was conducted[10].

Survey copies used in this study were intended to investigate in the structured close-ended questions primarily followed by the analysis on data in the open-ended questions.

### 4. Guard Organizations in Korea

President in Korea is responsible for protecting the country and also for maintaining the independence of the nation, preservation of the territory, and continuity of the country according to the constitution while representing the nation in the perspective of foreign countries. Therefore, president is required to fulfill the responsibility of protec-

tion for the nation according to the constitution at the time of crisis in the security. President is the one who needs to be completely protected in the perspective of national security. Therefore, presidential security office tends to prevent or remove the hazardous factors through information/security/safety-oriented activities to efficiently perform the guard on the president in charge of national security and to serve as a role of protecting the president against contingent or direct harms through close-guard[11]. Hereupon, guard organization has been globally established in appropriate form on national environments and hazardous factors.

Presidential guard office started from the third republic of Korea in 1963, and regime has been changed according to the time flow making the operation of guard and organizational culture more democratic compared to the military regime in the past.

In addition, presidential guard office is comprised of planning office, guard headquarter, guard department, and safety department placing guard education office as an organization belonging to the professional guard education department, while the functions and the works are currently being subdivided. The following <Table 2> indicates the summary of performance and works of the presidential security office.

**Table 2.** Functions and works of presidential security office[12].

Classification	Contents
Planning office	External business including assembly and budget and works related to personnel, organization, and quota control.
	Support administrative works including the general affairs and finance.
Guard head-quarter	Perform the events for the president and guard activities.
	Guard factors for the top figures in the foreign countries or administrative assistants visiting Korea.
Guard department	Overall manage to acquire the security in blue house and near areas.
	Lead the guard troops including military and police in charge of inner and outer areas of blue house.

Safety department	Collect information related to guard in Korea and abroad and security work.
	Guard the former presidents and come up with safety actions in the event areas.
Guard safety education department	Academic research related to guard and develop equipment.
	Entrusted education for those in charge of guard.

In addition, guard by the police in Korea aims to control the organization of the police in all of the nation in the unit of the National Police Agency. There is a guard department in the guard office from the National Police Agency in charge of supporting the work with guard-related organizations. In the local police departments, guard department and guard office are in charge of the guard, and the police office and police station perform the collaboration and performance. Especially, Seoul Metropolitan Police Agency has exclusive guard troops and guard groups exclusively responsible for visitors from foreign

countries performing a role of guard. In addition, there is a guard office in every police station to perform guard[4].

In addition, 101 security group, 22 police group, and 202 guard group have been organized to dispatch the personnel from the presidential security office that belonged to Seoul Metropolitan Police Agency, and there is a special guard group in charge of security protection for the former presidents and their spouses. The following <Table 3> indicates the contents about aforementioned three organizations dispatched from the presidential security office.

**Table 3.** Guard organization belonging to seoul metropolitan police agency.

Classification	Contents
101 Security group	Police officers belonging to the Seoul Metropolitan Police Agency in charge of the guard in the blue house and also the guard inside of the blue house, patrol, and protocol while receiving the order from the presidential security office and also dispatching the personnel during the certain period.
22 Police group	Receive the order as being distributed to the guard groups and presidential security office for performing the guard tasks. Seoul Metropolitan Police Agency is in charge of personnel and distribution. They serve as a same role and duty with agencies from the presidential security office and also receive the education/training in the same level with guard office.
202 Guard group	In charge of guard outside of the blue house and belong to the Seoul Metropolitan Police Agency to divide the work into police affair department, guard department, personnel education department, employees department, and riot police department.

## 5. Judo Techniques

The following <Table 4> indicates the summary of Ashi-waza and Ura-nage among Nage-wazas dealt with in this study.

**Table 4.** Nage-waza of judo[13].

Classification	Contents
----------------	----------

Ashi-waza	Deashi-harai	Technique for kicking to the direction to step out when opponent is about to step forward. Move and timing are important.
	Okuri-ashi-harai	Important technique for using both legs of the opponent as a stick to the direction for moving to the side or backward. Timing is important.
	Sasae-tsurikomi-ashi	Technique to place the weight while opening the body when the opponent is about to step forward and tilt the body after holding the leg of the opponent to turn him/her over.
	Ouchi-gari	Technique to catch the moment when opponent is about to move to sides/back/front and kick the leg of the opponent with weight from one's own leg and tumble the opponent down.
	Osoto-gari	Technique for tilting the opponent when the opponent is about to step forward and getting closer to the opponent to tumble down the opponent.
Ma-sutemi-waza	Tomoe-nage	Technique for tilting the body backward by pulling the opponent when he/she is about to move closer and pushing the abdominal areas of the opponent to tumble him/her down beyond the head.
	Hikikomi-gaeshi	Technique for holding the opponent off the shoulder placing the opponent down the body and kicking the inside area of thighs to tumble the opponent down.

On the other hand, martial arts used for the guard are not to suppress the opponent unlike the regular martial art but to safely protect the ones to be guarded. However, there are many of the hazardous factors in the situations when guarding someone. Therefore, there are many of the guard methods to be applied depending on the situations. Hereupon, it is expected to more efficiently perform the guard duties by applying the systematic and defensive techniques of Judo to guard martial art and training them to completely and outstandingly perform guard tasks[8].

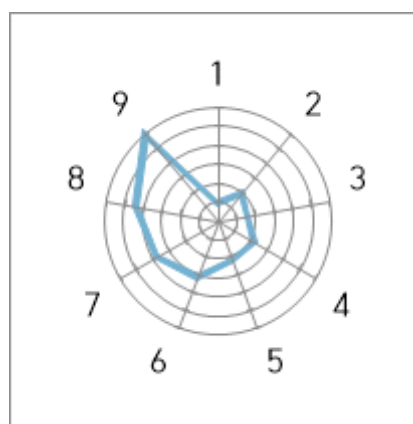
## 6. Aanalysis Result

### 6.1. Ashi-waza

#### 6.1.1. Hiza-guruma

The following <Figure 1> represents the frequency of the influence of Hiza-guruma on the guard tasks in graph as a defensive martial in guard.

**Figure 1.** Application of hiza-guruma.



As for the opinion of participants in the study in dealing with Hiza-guruma of Judo as defensive martial art in guard, 19 participants(22.9%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 14 participants(16.9%) on 8. Following is the representative opinion of Hiza-guruma among opinions from the study participants. Categories are as follows according to the characteristics of guard works.

"Small techniques are useful in the guard. Hiza-guruma is also a very efficient technique in Judo. It is advantageous to dominate the

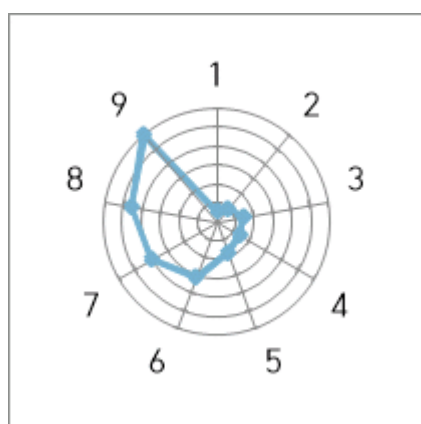


opponent depending on the situations (20160704\_KMG\_M).

### 6.1.2. Sasae-tsurikomi-ashi

The following <Figure 2> represents the frequency of the influence of Sasae-tsurikomi-ashi on the guard tasks in graph as a defensive martial in guard.

**Figure 2.** Application of sasae-tsurikomi-ashi application of hiza-guruma.



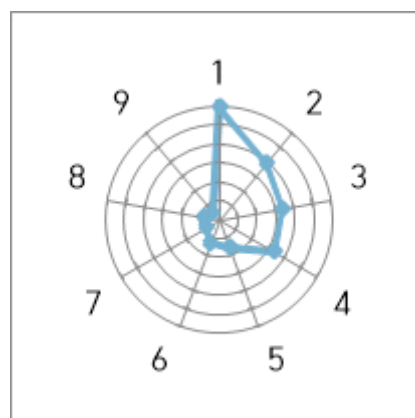
As for the opinion of participants in the study in dealing with Sae-tsurikimo-ashi of Judo as defensive martial art in guard, 21 participants(25.3%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.2%) on 8.

“I think that it is required to teach more practical Ashi-waza in guard without considering whether to place the ankles or knees in the guard”(20160707\_SSJ\_M).

### 6.1.3. Deashi-harai

The following <Figure 3> represents the frequency of the influence of Deashi-harai on the guard tasks in graph as a defensive martial in guard.

**Figure 3.** Application of deashi-harai.



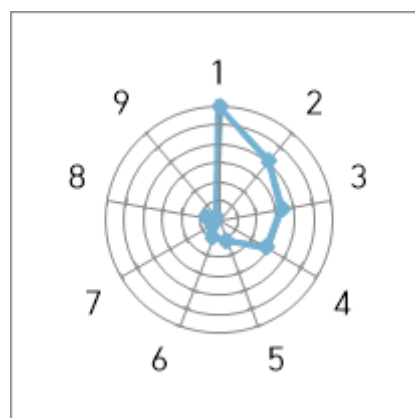
As for the opinion of participants in the study in dealing with Deashi-harai of Judo as defensive martial art in guard, 23 participants(27.7%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 2.

“I think that the accuracy of technique is lowered in the real battle, but it is still possible to dominate the opponent and is hence efficient technique in emergency”(20160516\_JNN\_M).

### 6.1.4. Okuri-ashi-harai

The following <Figure 4> represents the frequency of the influence of Okuri-ashi-harai on the guard tasks in graph as a defensive martial in guard.

**Figure 4.** Application of okuri-ashi-harai.



As for the opinion of participants in the study in dealing with Okuri-ashi-harai of Judo as defensive martial art in guard, 25 participants(30.1%) indicated 1 on a scale of 1(very

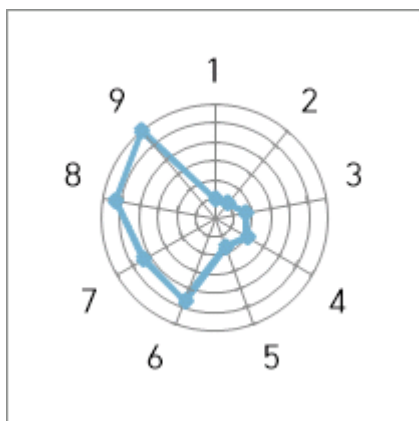
agree) to 9(very disagree) followed by 17 participants(20.5%) on 2.

“As a convenient technique to dominate the opponent who is attacking or running away, it is an efficient technique in the field”(20160501\_KDH\_M).

### 6.1.5. Ouchi-gari

The following <Figure 5> represents the frequency of the influence of Ouchi-gari on the guard tasks in graph as a defensive martial in guard.

**Figure 5.** Application of ouchi-gari.



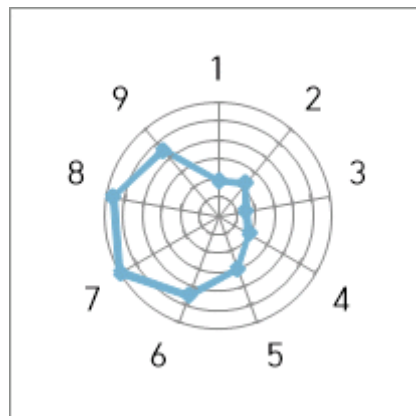
As for the opinion of participants in the study in dealing with Ouchi-gari of Judo as defensive martial art in guard, 18 participants(21.7%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 8.

“It will become an important technique for guards to hold the opponent and stay away”(20160403\_KDS\_M).

### 6.1.6. Kouchi-gari

The following <Figure 6> represents the frequency of the influence of Kouchi-gari on the guard tasks in graph as a defensive martial in guard.

**Figure 6.** Application of kouchi-gari.



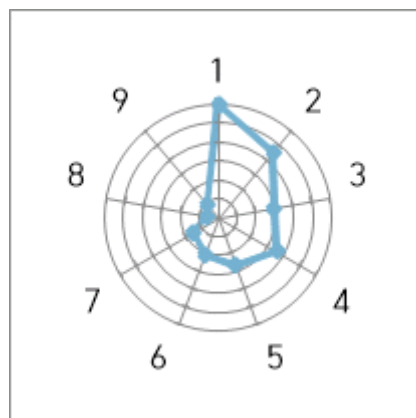
As for the opinion of participants in the study in dealing with Kouchi-gari of Judo as defensive martial art in guard, 16 participants(19.3%) indicated 7 on a scale of 1(very agree) to 9(very disagree) followed by 18 participants(18.1%) on 8.

“I think that it is a technique to be applied to an opponent who runs forward or pushes against you in the field”(20160505\_SJH\_M).

### 6.1.7. Osoto-gari

The following <Figure 7> represents the frequency of the influence of Osoto-gari on the guard tasks in graph as a defensive martial in guard.

**Figure 7.** Application of osoto-gari.



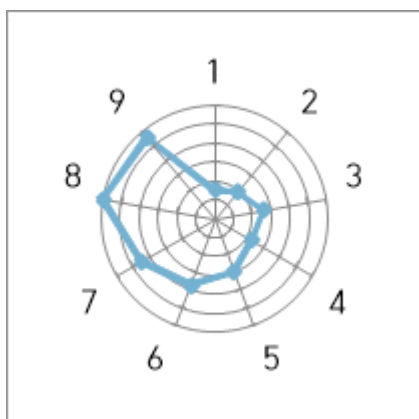
As for the opinion of participants in the study in dealing with Osoto-gari of Judo as defensive martial art in guard, 20 participants(24.1%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 2.

“I think that it is possible to throw the opponent who is much bigger than you in the field as an efficient technique” (20160425\_YTY\_M).

### 6.1.8. Uchi-mata

The following <Figure 8> represents the frequency of the influence of Uchi-mata on the guard tasks in graph as a defensive martial in guard.

**Figure 8.** Application of uchi-mata.



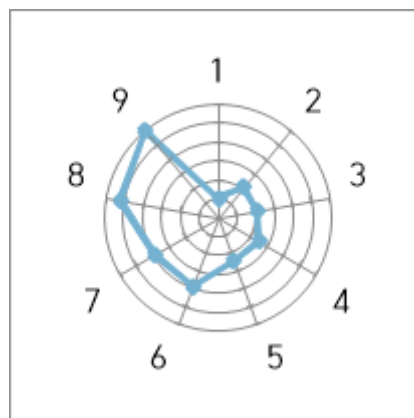
As for the opinion of participants in the study in dealing with Uchi-mata of Judo as defensive martial art in guard, 16 participants(19.3%) indicated 8 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 9.

“There is a possibility that it is possible to tumble the opponent down with the power of guard without letting the opponent go with Uchi-mata”(20160404\_PTY\_M).

### 6.1.9. Kosoto-gari

The following <Figure 9> represents the frequency of the influence of Kosoto-gari on the guard tasks in graph as a defensive martial in guard.

**Figure 9.** Application of kosoto-gari.



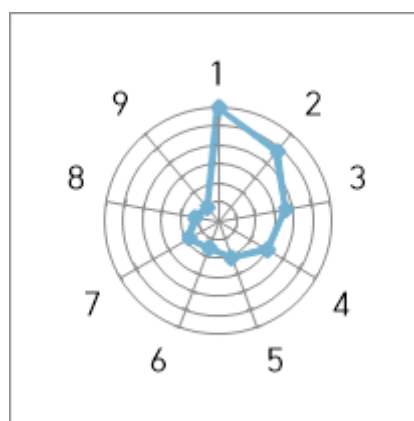
As for the opinion of participants in the study in dealing with Kosoto-gari of Judo as defensive martial art in guard, 17 participants(20.5%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 8.

“I believe that it is possible to use simple move in the field for representing the outstanding effect”(20160518\_LMS\_M).

### 6.1.10. Harai-tsurikomi-ashi

The following <Figure 10> represents the frequency of the influence of Harai-tsurikomi-ashi on the guard tasks in graph as a defensive martial in guard.

**Figure 10.** Application of harai-tsurikomi-ashi.



As for the opinion of participants in the study in dealing with Harai-tsurikomi-ashi of Judo as defensive martial art in guard, 20 participants(24.1%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 2.

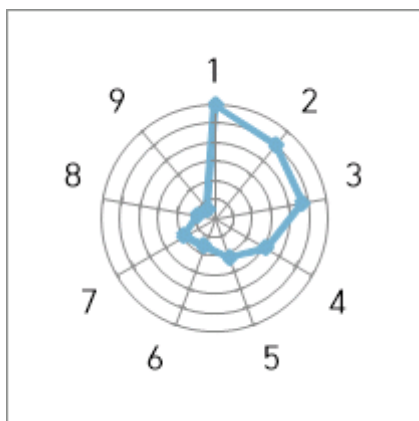
“It is similar with Okuri-ashi-harai, but this might be useful when holding and throwing away the opponent if he/she causes trouble after warning them without dominating them in the first place”(20160604\_BJE\_M).

## 6.2. Ura-nage

### 6.2.1. Tomoe-nage

The following <Figure 11> represents the frequency of the influence of Tomoe-nage on the guard tasks in graph as a defensive martial in guard.

**Figure 11.** Application of tomoe-nage.



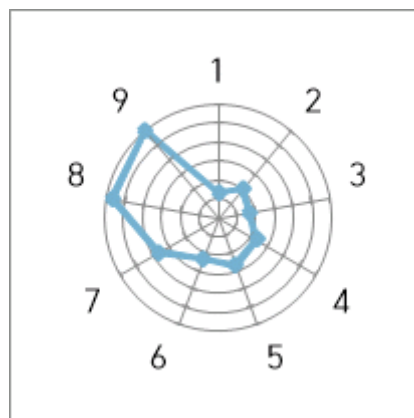
As for the opinion of participants in the study in dealing with Tomoe-nage of Judo as defensive martial art in guard, 19 participants(22.9%) indicated 1 on a scale of 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 2.

“This technique is difficult to learn, but once you learn it, you can use it in a wider range. There are many of the Tomoe-nages to apply that are difficult to deal with. Therefore, it might be better to deal with various situations by learning the relevant technique”(20160701\_PHY\_M).

### 6.2.2. Uki-Waza

The following <Figure 12> represents the frequency of the influence of Uki-Waza on the guard tasks in graph as a defensive martial in guard.

**Figure 12.** Application of uki-waza.



As for the opinion of participants in the study in dealing with Uki-waza of Judo as defensive martial art in guard, 18 participants(21.7%) indicated 9 on a scale of 1(very agree) to 9(very disagree) followed by 17 participants(20.5%) on 8.

“As a technique to dominating wrist of the opponent holding weapon and running towards you, it is a useful technique if you utilize the center of gravity”(20160701\_KJP\_M).

## 7. Conclusion

### 7.1. Ashi-waza

According to the results of the study, it is to explore the Ashi-waza of Judo as defensive martial art for the guard.

First of all, the frequency of the influence of Hiza-guruma on the guard turned out to be highest on 19 participants(22.9%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 14 participants(16.9%) on 8.

Secondly, the frequency of the influence of Sasae-tsurikomi-ashi on the guard turned out to be highest on 21 participants(25.3%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 16 participants(19.2%) on 8.

Third, the frequency of the influence of Deashi-harai on the guard turned out to be highest on 23 participants(27.7%) indicating 1 on a scale from 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 2.

Fourth, the frequency of the influence of Okuri-ashi-harai on the guard turned out to be highest on 25 participants(30.1%) indicating 1 on a scale from 1(very agree) to 9(very disagree) followed by 17 participants(20.5%) on 2.

Fifth, the frequency of the influence of Ouchi-gari on the guard turned out to be highest on 18 participants(21.7%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 8.

Sixth, the frequency of the influence of Kouchi-gari on the guard turned out to be highest on 16 participants(19.3%) indicating 7 on a scale from 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 8.

Seventh, the frequency of the influence of Osto-gari on the guard turned out to be highest on 20 participants(24.1%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 2.

Eighth, the frequency of the influence of Uchi-mata on the guard turned out to be highest on 16 participants(19.3%) indicating 8 on a scale from 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 9.

Ninth, the frequency of the influence of Kosoto-gari on the guard turned out to be highest on 17 participants(20.5%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 15 participants(18.1%) on 8.

Tenth, the frequency of the influence of Harai-tsurikomi-ashi on the guard turned out to be highest on 20 participants(24.1%) indicating 1 on a scale from 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 2.

## 7.2. Ura-nage

According to the results of this study, it is to explore Ura-nage of Judo as defensive martial art in guard.

First of all, the frequency of the influence of Tomoe-nage on the guard turned out to be highest on 19 participants(22.9%) indicating 1 on a scale from 1(very agree) to 9(very disagree) followed by 16 participants(19.3%) on 8.

Secondly, the frequency of the influence of Uki-Waza on the guard turned out to be highest on 18 participants(21.7%) indicating 9 on a scale from 1(very agree) to 9(very disagree) followed by 17 participants(20.5%) on 8.

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