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A Case Study on the Core Competencies of MILITARY Leadership for Junior Officers

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Abstract

This article will review studies on the core competencies of military leadership of Junior officers in order to provide future direction on leadership development and training at the Korea Military Academy(KMA). This will include studies related to a manager's leadership potential which is characterized by focusing on psychological factors rather than observable behavior. In particular, it will be shown that cognitive factors are important in self-confidence and in developing effective relationships with others. For this study, the Republic of Korea(ROK) Army presented detailed leadership elements and organized them into areas of principle-centered leadership, leadership potential, interpersonal skills, personal capability and behavior. Specially, empirical studies related to leadership competency of junior officers highlighted detailed leadership characteristics such as behavior and effectiveness. In the context of these studies, as a result of a case study of the KMA, a representative educational institution for the training of junior officers in the ROK Army, the Army presents the necessary capabilities for junior officers as military, intellectual, physical, values & sense of ethics, and social personality competencies. It also found that cadets were evaluated in categories of values, personalities, and attitudes in order to enhance their abilities. Finally, suggestions and implications have been made for the policies in ROK Army.

[Key words] *Military Leadership, Cognitive Ability, Principle-Centered Leadership, Interpersonal Skills, ROK Army*

1. Introduction

The Republic of Korea(ROK) Army is facing a growing number of internal and external challenges. Among these significant changes is the transition of wartime operational control from the United States(U.S.)-led ROK-U.S. Combined Forces Command(CFC) to the ROK-led ROK-U.S. CFC starting in 2022. Other changes include the National Defense Reform 2.0, the growing number of soldiers from multicultural households, and the rising number of female soldiers. In addition to these internal changes, there are ever increasing threats from North Korea involving ballistic missiles and nuclearization. China's military modernization and expansion in the South China Sea is challenging the long-standing geopolitical framework and military balance in East Asia. As well Japan continues to claim sovereignty over the Dokdo Islets. In particular, the very explicit and unpredictable provocation by North Korea requires that the ROK Army to be able to respond to these increasing threats and retaliate more readily and thoroughly by "raising a combat-oriented strong army" and "reinforcing a sharp combating capability."

These changes and requirements of our times are equally emphasized in military leadership[1], which is considered a core element for winning a war in today's Network Centric Warfare(NCW) situations driven by sophisticated weapons and high-tech equipment. In particular,

the leadership ability of junior officers who work directly with enlisted soldiers and command close combat situations against is one of the most important factors that determine the result of combat. This was confirmed in a study of soldiers who participated in the 6.25 War(Korean War) and the Vietnam War, which found that more than 73 percent of the respondents identified leadership of platoon and company commanders as the most influential factor in the result of combat[2]. Therefore, it is very meaningful to study which leadership competencies of junior officers lead to successful mission implementation, and to utilize the findings in future leadership development curriculum.

Most past studies of ROK Army leadership surveyed officers in general regarding the core competencies of junior officers[3], or examined the competencies of junior officers whose excellent ability had been verified in objective evaluations[4]. These studies asked enlisted soldiers serving on the front lines or in rearguard units to list leadership competencies required for junior officers in the order of importance before selecting core competencies based on the study findings, or deducing the main competencies from the behaviors and values of junior officers who had won various awards for their successful mission implementations. Such approaches can help to deduce the leadership competencies of junior officers.

Therefore, in order to suggest what elements of leadership that junior officers will require for every changing future situations, this study will review the studies of element of leadership competency. For this purpose, this study will research the case of the leadership competency elements at the Korea Military Academy(KMA).

2. Leadership Competency Required for Junior Officers

The leaders of any organization should have the traits or abilities that allow them to effectively execute their duties, complete their missions and efficiently command their departments and organizations. The basic functions that all leaders of every class commonly execute are planning, organization, command and control[5], the features of a mission, and the roles and functions performed by leaders differ by class, and leaders of a higher class require coordinating or integrating skills more than analytic or specialized skills.

In general, managers of different classes are called senior managers, middle managers, and junior managers, and their leadership is classified as strategic leadership, managerial leadership, and technical leadership, respectively. Compared to junior class leaders, senior class leaders are more exposed to and interact with the organizational environment, which leads them to plan work from a longer perspective, and tend to pursue satisfactory solutions to issues rather than optimal ones. In addition, senior leaders have the tendency to depend on personal insights or judgment instead of using quantitative methods in making decisions, and their projects are generally less standard than those of lower class leaders.

Katz classified the necessary abilities for all managers as technical skill, human skill, and conceptual skill[6]. Technical skill refers to the ability of using tools, procedures or techniques in certain areas, etc. This means that managers need a sufficient working-level ability to efficiently perform the specific missions for which they are responsible, as doctors, technicians, musicians or accountants all have working-level abilities in their respective fields. Human skill means the abilities of understanding, motivating and working together with members of an organization. Managers should have the human relations skills that are required to effectively involve their staff in organizational activities and direct the relevant groups. Conceptual skill refers to the intellectual ability of coordinating and integrating the interests and activities of all the units, the ability of looking at the entire organization and understanding the interactions between individual parts, and the ability of understanding how changes in certain parts can affect the entire organization. This means that all managers should be able to see how different relevant

factors are interrelated in a given situation and make the best choices for the entire organization. This necessary ability for managers differs in relative importance according to their organizational class. Technical skill is more important for front-line managers, while conceptual skill is more critical for senior managers. However, human skill is equally important for managers of every class, and particularly critical for middle managers. In other words, junior level managers require more technical skill for directly performing missions, whereas the conceptual skill of coordinating and incorporating various interests and activities is even more necessary for senior managers. Hence, junior officers should directly exercise leadership as front-line managers, which requires face-to-face leadership and technical and human skill.

3. Study of Competency Elements

3.1. Study of competency models

Boyatzis extended the study of competency by McClelland to the managers' domain [7], and surveyed about 2,000 managers working for 12 organizations and deduced 21 competency elements of managers before proposing a management competency model consisting of six clusters [8]. As shown in the following <Table 1>. While previous studies of competency were interested only in observable behavior, this study focused on incorporating more extensive psychological perspectives. In particular, it divided competency into three levels - motive and trait, self-image and social role, and skill - and tried to understand the behavior of individuals. By analyzing and classifying competencies into three levels, this study was able to explain why people act in their own ways, and emphasized psychological aspects that help to predict how they will act in a given environment.

Table 1. Boyatzis' 21 competency model.

Goal and action management cluster	Directing subordinates cluster
<ul style="list-style-type: none"> · Efficiency orientation · Proactivity · Diagnostic use of concepts · Concern with impact 	<ul style="list-style-type: none"> · Developing others · Use of unilateral power · Spontaneity
Leadership cluster	Focus on other cluster
<ul style="list-style-type: none"> · Self-confidence · Use of oral presentation · Logical thought · Conceptualization 	<ul style="list-style-type: none"> · Self-control · Perceptual objectivity · Stamina and adaptability · Concern with close relationships
Human resource cluster	Specialized knowledge
<ul style="list-style-type: none"> · Use of socialized power · Positive reward · Managing group processes 	<ul style="list-style-type: none"> · Memory · Specialized knowledge

Note: Boyatzis(1982).

With their general management model, Spencer & Spencer focused on common competency for all managerial positions and presented a total of eleven leadership competencies required for managers[9]. As shown in the following <Table 2>. This study listed competencies and a behavioral index or level by competency in the order of frequency or importance, and found that influence is the single largest competency, and that the shares of achievement, behavior and management competencies are large for the competency cluster. These competencies can be described as follows by their subsidiary elements:

Table 2. Managerial competency model.

Competency cluster	Competency
Achievement and action	<ul style="list-style-type: none"> · Achievement orientation · Concern for order, quality and accuracy · Initiative · Information seeking
Helping and human services	<ul style="list-style-type: none"> · Interpersonal understanding · Customer service orientation
Impact and influence	<ul style="list-style-type: none"> · Impact and influence · Organizational awareness · Relationship building
Managerial	<ul style="list-style-type: none"> · Developing others · Directiveness · Teamwork and cooperation · Team leadership
Cognitive	<ul style="list-style-type: none"> · Analytical thinking · Conceptual thinking · Technical/professional/managerial expertise
Personal effectiveness	<ul style="list-style-type: none"> · Self-control · Self-confidence · Flexibility · Organizational commitment

Note: Spencer & Spencer(1993).

First, the achievement and action cluster focuses on acts aimed at mission accomplishment rather than influence on others. Subsidiary competency elements include achievement orientation, concern for order, quality and accuracy, initiative, and information seeking. Second, the helping and human services cluster is associated with the willingness to meet others' desires, namely, to sympathize with and meet others' interests and demands. Subsidiary elements include interpersonal understanding and customer service orientation. Third, the impact and influence cluster reflects an internal interest to exercise influence on others and is commonly known as the desire for power. The motivation for power leads to efficient behavior, since it accompanies consideration for the interests of the organization or others. Subsidiary elements include impact and influence, organizational awareness, and relationship building. Fourth, the managerial cluster can be seen as a sub-category of influence in that it comes from the intent to create certain effects. Management competency fosters or trains others, or promotes teamwork and cooperation, and is very important for managers. Subsidiary elements include developing others, directiveness, teamwork and cooperation, team leadership, and personal effectiveness. Fifth, the cognitive cluster represents the intellectual aspect of initiative, and is

demonstrated in trying to understand certain situations, tasks, issues, opportunities or knowledge. Like initiative, it is considered with respect to a task- and achievement-oriented mindset, while sometimes it is seen as competency in support of influence and management capability. Subsidiary elements include analytical thinking, conceptual thinking, and technical/professional/managerial expertise. Finally, the personal effectiveness cluster represents a few general features rather than specific intentions, all of which reflect individual maturity in relationship with others or assignments. The competency cluster belonging to individual effectiveness has an impact on the effectiveness of competency, which is exercised when individuals address direct pressure or difficulties from their surrounding environments. In other words, this cluster supports the efficiency of other competencies. Subsidiary factors include self-control, self-confidence, flexibility, and organizational commitment.

Lucia & Lepsinger presented fourteen leadership competencies that are required for managers to successfully execute certain roles[10]. As shown in the following <Table 3>. This study found that, in general, those who often use such competencies tend to produce better results and work more effectively in their jobs than those who do not.

Table 3. Leadership and managerial competency model.

Competency	Contents
Informing	Disseminating relevant information about decisions, plans, and activities to people who need the information to do their work
Clarifying	Assigning work, providing direction on how to do the work, and communicating a clear understanding of job responsibilities, task objectives, priorities, deadlines, and performance expectations
Monitoring	Gathering information about work activities and external condition affecting the work, checking on the progress and quality of the work, and evaluating the performance of individuals and the effectiveness of the organizational unit
Planning	Determining long-term objectives and strategies, allocating resources according to priorities, determining how to use personnel and resources efficiently to accomplish a task or project, and determining how to improve coordination, productivity, and effectiveness
Problem solving	Identifying work-related problems, analyzing problems in a systematic but timely manner, and acting decisively to implement solutions and resolve crisis
Consulting	Checking with people before making changes that affect them, encouraging participation in decision making, and allowing others to influence decisions
Delegating	Assigning responsibilities to direct reports and giving them discretion and authority to carry them out
Influencing	Using influence techniques that appeal to reason, values, or emotion to generate enthusiasm for the work, commitment to task objectives, or compliance with orders and requests
Recognizing	Giving praise and showing appreciation to others for effective performance, significant achievements, and special contributions
Rewarding	Providing tangible rewards such as a pay increase or promotion for effective performance and demonstrated competency
Supporting	Acting friendly and considerate, being patient and helpful, and showing sympathy and support when someone is upset and anxious

Mentoring	Providing career counseling and facilitating someone's skill development and career advancement
Networking	Socializing informally, developing contacts with people who are a source of information and support, and maintaining contacts through periodic visits, telephone calls, correspondence, and attendance at meetings and social events
Team building	Facilitating the constructive resolution of conflict, and encouraging cooperation, teamwork, and identification with the organizational unit

Note: Source: Lucia & Lepsinger(1999).

3.2. Study of ROK army leadership competency

“The ROK Army Leadership Manual” published by the ROK Army specifies the example of army leadership, which is suitable for the new battlefield environment of the 21st century. The manual defines leadership competency as the “elements required for strong leaders committed to serving their country, and the personality elements necessary for performing present and future missions, including talent, ability and behavior” [11], which were identified as the three elements of competency commonly required for leaders. As shown in the following <Table 4>.

First, the talent of leaders is a standard that determines “What kind of soldiers the ROK Army leaders should be,” and includes four necessary elements, i.e., values, personality, attitude, and soldierliness. Values are the standards that determine “Why a soldier serves in the Army; what kind of soldier he/she should be; and how he/she should act.” They suggest five elements such as “loyalty, courage, responsibility, respect, and creativity,” which are different from those of the U.S. Army. Personality refers to “the character of a person” and is identified as morality, ethics, broad-mindedness, positive thinking, faithfulness, self-control and a sense of balance. Attitude means “the posture that shows his/her thoughts to others” and includes convictions, initiative, a fighting spirit, enthusiasm, and dedication. And soldierliness refers to the “external images that a soldier should have,” and includes appearance, a strong physical condition, and soldierly speech and acts.

Table 4. ROK Army leadership competency.

Competency	Contents
Talent	Values Loyalty, courage, responsibility, respect, creativity
	Personality Morality, ethics, broad-mindedness, positive thinking, faithfulness, self-control, a sense of balance
	Attitude Convictions, initiative, a fighting spirit, enthusiasm, dedication
	Soldierliness Appearance, a strong physical condition, soldierly speech and acts
Ability	Intellectual Insight, shrewd, judgment, conceptualizing
	Combat execution Tactical knowledge, combat skill, operating military equipment, synthesizing warfighting ability

	Mission capability	Knowledge and skill for duty, managing and utilizing resources, resolving a conflict, identify a priorities of work and performing, maintaining systematic coordination structure, utilizing informational technologies fluently
	Decision-making	Utilizing multiple information, accurate situational awareness, timeliness on making decision, rational and participative decision making
	Communication	Understand and accept information, effective communication, multiple ways to communicate, utilizing means at hand, sharing knowledge and information
	Change management	Awareness a change, adaptability to a change, leading a change to an organization, consistent management of a change
	Setting an example	Abiding by law, acting up to one's word, conducting one's own duty, on-site command
	Moving the members	Understand and accept diversity, acknowledgement and compliment, concerning and consideration on members, improve member's quality of life
Behavior	Developing himself/herself	Accurate self-awareness, pursue self-development, set a plan for self-development, evaluate and provide feedback
	Developing members	Judge demands for improvement and motivation, empowering, reinforcing teamwork, create an environment to develop
	Accomplishment	Provide a goal/direction/priority, evaluating and feedback

Note: Army leadership(2009).

Second, the ability of ROK Army leaders relates to “what a leader should be able to do,” and refers to the state where a leader can execute his/her missions based on military expertise, and has the relevant knowledge or skills necessary for leading and managing the members and the organization. Specifically, it represents intellectual ability, combat execution ability, mission capability, decision-making ability, communication ability, and change management ability.

Third, the behavior of leaders relates to “how a leader should act to lead an organization and its members,” and covers five behaviors including “setting an example”(leader’s behavior serves as an example among the organizational members), “moving the members’ minds”(leading the members to look in one direction), “developing himself/herself and the members”(leader develops his/her own ability and motivates the members to follow suit), and “accomplishment” aimed at meeting goals.

3.3. Study of the leadership competency diagnosis tool of the ROK army

Most of the relevant studies that have been conducted by the ROK Army stopped at developing competency diagnosis tools, rather than measuring leadership competency and presenting alternatives for improving it by level. As shown in the following <Table 5>.

Table 5. Study ROK Army leadership competency.

Researcher	Sample	Contents(platoon leader competency)
Han(2001)	Private 432	Trait: 15, behavior: 31, effective: 4

Lee(2004)	Private 492	Trait: 11, competency: 15, behavior: 15, effective: 3
Park(2004)	Company 24	Example setting, responsibility, situation judgment ability, creative combat performance, positive attitude, mission clarifying, courage, practical training, fighting spirit improving
Yeon(2006)	Officer 112 Private 494	Responsibility, loyalty, honest, trust, tactical knowledge, self-developing, mission capability, interpersonal relation, communication, risk managing, mission clarifying, courage, pursue unity, equity, coherence,
Shin(2010)	Officer 59 Private 193	Responsibility, loyalty, self-confidence, faithfulness, honest, strong physical competency, tactical knowledge, example setting, reinforcing teamwork, fighting spirit

Han developed a questionnaire for diagnosing platoon leaders' leadership, and differentiated his study from previous ones by classifying leadership into character and behavior categories, and deduced 10 character and 17 behavior sub-categories for each category[12]. Lee developed a questionnaire for diagnosing company leaders' leadership, added competency categories to existing studies, and deduced 11 character categories, 15 competency categories, and 17 behavior categories[13]. Park is significant in that he deduced leadership competency of low level commanders in combat situations. His study identified core leadership competencies such as example setting, a sense of responsibility, and situation judgment ability in three stages, which are realistic and relevant to actual combat situations[14]. Yeon is significant in that he deduced 15 core leadership competency of junior naval officers[15]. Shin is also significant in that he deduced 10 core leadership competency of junior marine corps officers[16].

4. Leadership Competency Elements of the Korea Military Academy(KMA)

4.1. KMA's elite officer education and training system

KMA's mission is to lead its cadets to attain "proper values, moral character, and competencies for developing into military experts" for the purpose of "training elite ROK Army officers who can devote themselves to national defense." In order to accomplish this mission, KMA has set the following educational goals for its cadets: establish views of the country based on the spirit of liberal democracy; cultivate soldierly spirit and leadership committed to serving the nation; learn up-to-date military expertise and improve the ability for utilizing it; promote creative and integrated problem solving ability; and improve a strong mentality and fitness.

KMA's education system for training elite officers has continued development and recently established its "Elite Officer Fostering Architecture" for future-oriented cadet education in order to prepare for the uncertain and fast-changing environment[17]. As shown in the following <Table 6>. This Architecture is expected to allow its cadets to have the qualifications and competencies as "the country's key soldiers dedicated to serving the nation." The Architecture demands that the cadets pursue the "ROK Army's five values" during their life in KMA, and develop the four attitudes essential for growing into "leaders proactively solving organizational issues"(sense of duty, self-awareness, self-control, and relationship perception)[18][19]. It also states that the cadets should develop the personality, expertise, and competencies necessary for future elite army officers through the five educational focuses provided by KMA[20][21][22].

Table 6. Elite officer fostering architecture.

Competencies	Contents
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Military competency	<ul style="list-style-type: none"> • Learn and understand professional military knowledge/principle such as military history, art of operating units, and military equipment systems. • Master a basics of military skills to conduct a mission immediately. • Being able to command and manage a war based on the understand on composition of units.
Intellectual competency	<ul style="list-style-type: none"> • Learn and understand important concepts and principles in overall academic areas. • Develop an ability to provide creative and logical solution of complex problems. • Enhancing the ability to understand different regions and cultures.
Physical competency	<ul style="list-style-type: none"> • Prepare a fighting spirit, endurance, skill to survive and defend. • Develop strong physical fitness to push and overcome its limit.
Values & sense of ethics	<ul style="list-style-type: none"> • Establish a correct value and viewpoint toward one's nation, national security, and life and death as a soldier. • Establish a spirit based on loyalty, honor, responsibility, and vigor of no retreat in a combat. • Establish moral-ethical character to demonstrate effective profession of arms.
Social personality	<ul style="list-style-type: none"> • Understand different viewpoints of others and developing an ability to aware vertical/horizontal relationships. • Establish an attitude of accepting differences and an ability to communicate openly.

4.2. Cadets capability diagnosis tools

KMA assesses the qualifications and abilities of the cadets who will become elite officers of the ROK Army, and evaluates their leadership competency and provides individual feedback. As shown in the following <Table 7>. This helps the cadets strive to improve their leadership skills and develop fair evaluation abilities. Leadership competency evaluation consists of three elements –values, personality and attitude - with a total of 13 sub-elements as follows: values refer to loyalty, courage, responsibility, respect, creativity, and honor; personality consists of sincerity, initiative, and mental stability; and attitude includes external posture, human relations, example-setting, and a law-abiding spirit.

The cadets evaluate others and reflect on themselves through three leadership competency assessments per year, conducted in the first semester, summer military training, and the second semester. The cadets are also encouraged to work to fix individual weaknesses by analyzing the results. Leadership competency assessment adopts a multi-faceted methodology including evaluation among cadets(upperclassmen, underclassmen, and classmates) and evaluation by the discipline instructors. It is an absolute evaluation on a five points scale with a description of the strengths and weaknesses of those assessed. In particular, the leadership competency assessment conducted at the end of the semester includes the diagnosis by the professors who are in charge of academic subjects. The evaluation is on a five points scale for four elements including initiative, creativity, external posture, and sincerity, and the results are used as the basis of discipline instructor evaluations.

Table 7. Cadet's leadership competency evaluation.

Elements	Sub-elements
Values	Loyalty, courage, responsibility, respect, creativity, honor
Personality	Sincerity, initiative, mental stability
Attitude	External posture, human relation, example-setting, law-abiding spirit

Results of the leadership competency assessments are reflected into discipline references and grades, and the grades by evaluation factor and the description of strengths and weaknesses are accessible by and provided to individual cadets. Those who repeatedly underperform receive intensive assistance by discipline instructors and the Coaching Committee under the Leadership Center, and are encouraged to strive to improve and develop themselves.

5. Conclusion

This study reviewed the studies on the elements of military leadership competency in order to suggest what leadership characteristics junior officers should process for challenging future situations.

The studies related to manager's leadership competency are characterized by focusing psychological factors rather than observable behavior as elements of leadership competency that managers should have. In particular, it has been shown that cognitive factors are important in self-confidence or relationships with others, especially in common.

As a study of junior officers interested, the ROK Army presented detailed elements by dividing them into the areas of talent, ability and behavior as elements of leadership competency. In particular, empirical studies related to the leadership competency of junior officers found detailed elements by dividing areas into individual characteristics, behavior and effectiveness as elements of leadership competency of junior officers.

In the context of these studies, as a result of a case study of the KMA, a representative educational institution for the training of low-level officers in the ROK Army, the Army presents the necessary capabilities for junior officers as military, intellectual, physical, values & sense of ethics, and social personality competencies based on the architecture. It was also found that cadets were evaluated as categories of values, personalities, and attitudes in order to enhance their abilities.

Even in such a high-tech, ever changing battlefield environment, the elements of leadership competency needed for a junior officer suggest that an invisible inner psychological element is still as important as an observable behavioral factor. Accordingly, it is believed that military educational institutions that train junior officers will need to strengthen their leadership competencies through the development and application of effectively developed programs.

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7. Contribution

7.1. Authors contribution

	Initial name	Contribution
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A Critical Evaluation to Just WAR Theory and Alternative Way

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Abstract

This paper aims to provide a critical evaluation of the existing just war theories and its alternative direction to analyze the sharpest war in international relations from an ethical perspective. The theory of just war can be said to be an intermediate theory between realism and ideal pacifism.

This paper tries to research the Eastern and Western theories about the just war theories, and show the future developments of just war theory. The existing theory of just war has been largely divided into Jus ad Bello(the justice of the war) itself and Jus in Bello(the justice of combat action). In recent years, Jus post- Bellum(the post-war justice) has also been discussed.

This paper raises the limitation that the existing East-West just war theories, in particular, the western just war theories have been based on the Time-Sequenced Approach focused on the sequence of the war itself. This paper points out that each principle should not be considered differently over time. Still the procedure for moral judgment is similar, so it should be possible to analyze according to the same principle.

Although the intensity and scope of war are very extraordinary, it should be understood in the range of the cultural act of human beings. This paper tries to suggest to look at war centering on human beings, the subject of moral judgment. War never flows in one direction apart from humans. It is initiated and performed by a series of moral judgments of people. This is the reason that war could be understood morally. Then we can wait that just war theory should follow, not the sequence of the war but the general ethics approaches.

[Keywords] *Just War Theory, Realism, Ideal Pacifism, Jus Ad Bello, Jus In Bello, Jus Post Bellum, Time-Sequenced Approach*

1. Introduction

The Just War Theory is an essential theory for an ethical understanding of the war in international relations. This theory argues that war can be justified if a reasonable basis is provided for war between countries and that the overall justification of war is secured when the process of war is justified. For this reason, the theory of just war can be said to be an intermediate theory between realism and ideal pacifism.

This paper reports a brief overview of the Eastern and Western theories about the just war theories, and then clean up the features of the existing just war theories to discuss future developments of the definition of new forms of just war theories. The current theories of just war have been largely divided into Jus ad Bello(the justice of the war itself) and Jus in Bello(the justice of combat action). In recent years, Jus post Bellum(the post-war justice) has also been discussed.

The various discussions of ethics have been largely divided into descriptive ethics, normative ethics, and meta-ethics[1]. In these ethics, just war theory corresponds to normative ethics, more specifically, the applied normative ethics, can be called practical ethics. This applied normative ethics presupposes the case where pure normative ethics such as teleological theory, obligation theory, and virtue are discussed more practically in consideration of specific circumstances. Therefore, the just war theory can be said to be applied to normative ethics, assuming a very specific situation called war.

The existing eastern and western just war theories have shown the characteristics of the Time-Sequenced Approach, which focuses on the importance of the time of war. This paper points out that each principle should not be considered differently over time, but the procedure for moral judgment is similar. So it should be possible to analyze according to the same principle.

Discussions get much further, conventional just war theories could be understood as a not time-sequenced approach to the war but human being. Then the war will be able to be inter-dependent with a human being and provide an alternative for those problems that arise morally.

2. The Concept and Definition of Just War Theory

The theory of just war is a controversy over which war is right or not. The basic idea of it lies in defending the justice of war and restoring peace[2]. Here the peace is a kind of ideal state, the war is a last resort to realize the peace. So paradoxically, the purpose of the war is to achieve a better state of peace[3].

In the Greek era, Plato had considered the legitimate war, or the self-defense war, for granted, and claimed the need for self-defense armament[4]. The United Nations Charter also recognizes a war as such self-defense for authorizing the use of force by the UN Security Council. Also, due to the self-defense war, it has also been recognized as legitimate under international law of war as follows:

Charter of the United Nations, CHAPTER V, ACTION WITH RESPECT TO THREATS TO THE PEACE, BREACHES OF THE PEACE, AND ACTS OF AGGRESSION, Article 39, The Security Council shall determine the existence of any threat to the peace, breach of the peace, or act of aggression and shall make recommendations, or decide what measures shall be taken in accordance with Articles 41 and 42, to maintain or restore international peace and security. Article 41, The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures. These may include complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations. Article 42 Should the Security Council consider that measures provided for in Article 41 would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade, and other operations by air, sea, or land forces of Members of the United Nations. Article 51, Nothing in the present Charter shall impair the inherent right of individual or collective self defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security[5].

In the west, historical considerations of the just war theory are traced back to Plato in ancient Greece. Plato tried to focus on the restoration of peace, Aristotle also made importance that the war is a means to preserve peace[6][7][8].

Traditionally, there have been two discussions in the just war. One is an explanation for “justification of reason of war”, and the other is an explanation for “justification of means of war”[9]. Justification is generally a justification for the war itself. To do this, there must be a substantial attack between the parties to the conflict engagement, and the situation in which the non-combative corrective measures of the parties are likely to be inadequate or too expensive. In addition, there must be at least two requirements regarding the righteous means for the war of justice: protection of innocent citizens and prohibition of mobilization of excessive means of war[10].

3. The Theoretical Background of Just War Theory

3.1. Oriental cases

Chinese older Confucianists(儒家) developed the right cause in the war. They thought if the war could be right in defending the attack from other countries or rebellion riot. One of the thinkers of the justice war, Mencius(孟子, BC. 372-289) said that “the invasive monarch who deprive their people of their farming season and plow their fields and feed their parents, their parents will freeze and starve, and the brothers and sisters broken apart”(彼奪其民以時使不得耕耨養其父母父母凍餓兄弟妻子離散) should be shut down[11].

Mozi(墨子) did not share the war could be right. His main idea came from non-attack(非攻), which contains mutual love(兼愛)[12][13].

Even limited, Buddhism mentioned just war. The so-called “protecting nation Buddhism”(護國佛教論) showed the importance of the three treasures(三寶) which contain Buddhas(佛), Doctrine(法), Monk(僧). In the case of violating those three treasures, the war could be justified to break the non-killing doctrine(不殺生).

3.2. Western cases

The western cases of the theory of just have been supported by Christian theology and natural law from the Middle Ages to the Middle Ages. Augustine, a leading theologian in the Middle Ages of Christianity, argued that the just war is necessary to combat the evil. In his days, barbarians were enemies of the Roman Empire and, at the same time were heretics who persecuted Catholics[14].

Thomas Aquinas handled the issue of war at his written book Summa Theologiae[15]. Since war is usually the most serious threat and destruction of peace, all wars should be banned. But he mentioned an acceptable war. The condition of this war does not destroy peace, but rather contributes to peace. Thomas defined this war, just war(bellum iustum)[16].

Grotius was regarded as a figure who marked the transition from the natural legal traditions of the Middle Ages to modern natural thought. He said it is justified to punish those who violated natural law. Here, the natural law does not simply mean a moral law such as love or mercy but is a moral rule known to all rational beings, which means a measure of state practice or will[17]. The ultimate goal he pursued was to overcome the misery of religious wars and to regulate wars between nations according to reasonable rules. In this book, Grotius said that the whole Christian world seemed to have no restraint against the war that even barbarians were ashamed of[18].

Engaged with just war, Immanuel Kant showed the six preliminary provisions that hindered the practice of permanent peace. Firstly, the war of the future peace treaty can not be regarded as a peace treaty. Secondly, any independent state can not acquire any other country by being inherited, exchanging, purchasing, or donating. Thirdly, standing armies should be gradually abolished. Fourthly, any government bonds should not be issued in connection with the external national conflict. Fifthly, any country should not interfere with violence against the constitutional system and regime. Sixthly, no country is not allowed to hostile act to disable the mutual trust upon the future of peace in the war with other countries ever[19].

Concerning the just war theory, especially during the period modern nations and its absolutism, the war is going to be understood as the sovereign right of the nation based on State Reason (Staatsraison, Raison d'Etat). In other words, war is the final argument of the sovereign (ultima ratio regum) by an absolute monarch[20].

Just after World War 1, the just war theory is about to get attention as a theory to settle peace and international organizations. And World War 2 could give a lot of implications to enrich the academic environment. M. Walzer is a good person to remark on the trend[21]. He tried to emphasize the dialectical approach to pacifism and realism. From this perspective, he attempted a moral argument to the Vietnam war[22].

According to this just war theory, the war is sometimes indispensable for peace as well as morally justified. That doesn't mean that all the parties to the war are just[23]. The existing just war theories have been primarily addressed the justice of the war itself and the battle actions. Some scholars have recently claimed Jus post Bellum. This concept deals with the morality of the termination phase of war, including the responsibility to rebuild. The idea has some historical pedigree as a concept in just war theory[24]. In modern times, it has been developed by a number of just war theorists and international lawyers. The Canadian scholar Brian Orend is usually considered the initiator of the debate[24][25]. He argued that just war theory was incomplete in dealing only with the morality of using force (jus ad bellum) and the morality of conduct during the war (jus in bello). He cited Immanuel Kant as the first to consider a three-pronged approach to the morality of armed conflict[26] and concluded that a third branch of just war theory, the morality of the termination phase of war, had been overlooked[24].

The existing just war theory tends to analyze the ethical meaning of war based on domain and time. We are waiting to further deepen ethical research into the war.

4. Evaluation of the Existing Just War Theory and Its New Direction

It is true that the theory of justice war, which adopts an alternative path between the impulse of realism and the ideal vision of pacifism, which presupposes complete hostility, provides some logic to the countries facing war in the real world.

The study of just war theory was mainly confined to Jus ad Bellum. This tendency is stronger as we go up to ancient times. World War 1 gave us a momentum to show mass destruction. And World War 2 was much broadened and severe. After these two world wars, the concept of Jus in Bello has been highlighted.

The existing theory of just war has focused on securing the legitimacy of the war itself, regardless of the East or the West. Increasingly, over time, it has accepted the moral demand, not limiting human life. As such, the existing just war theories divided the step of the war, which means starting, executing, subsequent post-war, and based on these steps, presented a moral imperative. But there has been no discussion about how much weight should be given to each principle or element in evaluating the level of morality of war itself or war action or subsequent operations. It is difficult to avoid criticism that the existing theory of justice war is merely setting

the category of war morality and suggesting detailed principles for each category. In other words, this is a blueprint that does not work. Also, the existing theory of justice war does not discuss the correlation between Jus ad Bellum, Jus in Bello, and Jus post Bellum. In the case of soldiers who fought fairly well in an unjust war, their achievements would be forgotten. These issues should be considered carefully. At the same time, even if it was a just war, it could be deserved to be accused of unwarily waged war. Because the war should not be the winner's own ethics.

Therefore, future just war theory should be based on the existing traditional ethics, including deontology, teleology, and it should be noted that the question of whether to give a comprehensive judgment to the extent of the weight of the individual principles applicable to the specific evaluation component.

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6. Contribution

6.1. Authors contribution

	Initial name	Contribution
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The Historical Re-Examination of the Origin of Joseon Yusool as the MILITARY Tactic from Year 1598

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Abstract

Purpose; This study examined the origin of Joseon Yusool and its value as an intangible heritage as a military martial arts from a macro perspective, and the conclusion was drawn as follows. First, the Joseon military is fought against the Japanese enemy who wielded swords and rifles during the Seven Years' War of Imjinwaeran. It was necessary to use Yudo first to overcome the opponent and to win the war. Second, since the Japanese invasion of Korea, Yudo was born in 1637, and a new war physical techniques were established in the martial arts world of Japan Third, the Imperial School of the Korean Empire was established in April 1895(the 32nd year of Gojong's reign) with the training camp, which was established in May to train and command the beginners. In particular, the Japanese Foreign Ministry record was Yudo, the main feature of the Joseon Military Academy in 1905, and the Joseon Military Officers made Yusool as a part of the martial arts. Fourth, the beginning of the Joseon Yusool Department was by Emperor Gojong, 100 strong men, Wolnam Lee Sang-jae, and Ryu Geun-su and Na Su-yeong, who were from the Gojong Imperial Academy. It was the first Yusool of Na Su-yeong, the Joseon Yusool, and the first blackbelt holder Kim Hong-shik of YMCA Yusool. In other words, Yusool already existed before the introduction of Yudo of the Japanese Gangdogwan to Joseon. It was also called Yusool in the 1914 Ministry of Physical Education report. In conclusion, it was the noble martialism of the ancestors through the Joseon Yusool, and we should preserve and develop the spirit and intangible cultural heritage.

[Keywords] Military Martial Arts, Yusool, Yudo, Joseon, Tac

1. Introduction

1.1. Necessity of research

Korea went through many wars with Japan. Among them, the most fierce war in history was "Imjinwaeran"(壬辰倭亂: the Japanese Invasion of Joseon in 1592(1592-1598)). At first, Joseon was defeated by the Japanese army, but during the seven-year war, Joseon studied how to win them. Joseon's military tactics began to evolve after General Shin Rip was defeated with cavalry tactics, which were existing military tactics. Japan's rifles did damage to the Korean military, but the Japanese military's swordsmanship, which freely used long swords in close battles, was the main cause of the defeat.

In the close battles during Imjinwaeran, the Joseon army was damaged and defeated, not knowing how to fight against the Japanese troops who were charging with long swords. In other words, existing martial arts such as Subak was no use in the battle, and while a spear was good with cavalry based tactics, but it was useless against long swords. The way to win a battle was empirical

military tactics, and the Joseon government, which felt that a tactical approach was needed for close battles, sought after them. 101st volume of the Annals of the Joseon Dynasty: Seonjo(朝鮮王朝宣祖實錄)(June 22nd, 1598), "Yudojejisa(柔道制之使)," and "Yuneungseunggangja(柔能勝強者)" show clearly.

In addition, Admiral Yi Sun-shin "Nanjungilgi(亂中日記: War Diary)" also features the word "Gakryeoksangjaeng(barehanded battle). It refers to the fact that during the war the soldiers fought, wearing armor, against the Japanese enemy, who wielded swords and rifles, by holding, throwing, pressing, crushing, breaking, and binding(亂捕, 亂投, 亂取), which completed tactics of "Yudojejisa(柔道制之使)" and "Yuneungseunggangja(柔能勝強者)".

In particular, General Kim Jwa-jin, who achieved the victory of Cheongsanri Battle during the modern Japanese colonial era, entered the Joseon Military Academy in 1905 and moved to Manchuria to achieve the great feat of Cheongsanri Battle when the Joseon Military Academy disappeared by Japan in 1907. In addition, the Japanese Ministry of Foreign Affairs recorded in detail that General Kim wiped out the Japanese army with his main skill, Joseon Yusool, in close battles against them. So Joseon Yusool was used as a military martial art as a means of national salvation. It is said that the beginning of Joseon Yusool was in 1906, but judging from the timing of the establishment of the Joseon Royal Military School in 1895, it has been adopted as a military subject for a long time and continued to be passed down. Also, it is noteworthy that "defeating loyal soldiers with Yudo(柔道而屈忠義之兵)" was recorded in the Annals of the Joseon Dynasty: Jeongjo(朝鮮王朝正祖實錄)."

However, despite the existence of such literature, the academic community of the present era has claimed that Japan is the country of judo and has turned a blind eye to the opportunity to find it in our cultural heritage, the Annals of the Joseon Dynasty(朝鮮王朝實錄). Although modern scholars mentioned that Joseon Yusool existed and the late martial artists mentioned it several times, it was preserved in Japanese style by Gangdogwan, a member of the Japanese Mudeokhoe(martial arts society), which consisted of Japanese armor, long swords, short swords, and barehanded martial arts. In other words, Joseon Yudo is a military martial art created by Yi Deok-hyeong's idea of military tactics to defeat the Japanese forces during Imjinwaeran. It is well known that this Joseon Yudo also moved to Japan during the war and 39 years later became a backdrop of the birth of Jinshinryu Yudo(真信流柔道).

There are studies related to Joseon Yudo and the military aspects of Imjinwaeran and in the late Joseon period as follows: "War Chronicle against Mong Dynasty: Gojong's Diplomacy and its Historical Characteristics"[1]. by Gang Jae-gwang(2015), "A Study on the War Status and Lessons of Imjinwaeran" by Kim Gang-nyeong(2008)[2], "Internal Affairs and the Dispatch of Diplomatic Missions after Imjinwaeran - Focused on the dispatch of the Response and Repatriation Mission(回答兼刷還使)" by Kim Mun-ja(2019)[3], "A Study on the Threat of the Monarchy during the Reign of King Gojong" by Kim Seong-hye(2010)[4], "Reinterpretation of Mu(武) Inherent in Gojong's Policy of National Prosperity and Military Power - Focused on the Analysis of the Meaning of Gwangmu(光武) and Cheyang(體養)" by Kim Ju-yeon and Kim Eun-jeong(2011)[5], "The Types and Operating System of Military Yusam(油衫) in the Joseon Dynasty" by Park Ga-yeong(2014)[6], "The Organization and Operation of the Jeolla-do Naval Forces during Imjinwaeran" by Shin Yun-ho(2018)[7], "A Study on the Military Dressing of the Middle and Late Joseon Training Camp(訓練都監)" by Yeom Jeong-ha and Jo Wu-hyeon(2013)[8], "War Information Just Before Imjinwaeran and Joseon's Response" by Yun Gyeong-ha(2014)[9], "Aspects of Literary Form and Transformation on Yi Hang-bok's Activities During Imjinwaeran" by Lee Gi-dae(2015)[10], "The Korean YMCA Yudo Development Process under the Japanese Imperialism" by Lee Seong-jin(2001)[11], "A Study on the Activities of the Joseon Branch of the Japanese Imperial Foundation

Gangdogwan" by Lee Seung-su(2017)[12], and "A study on Yudo Languages during the Japanese Colonial Era" by Jo Jae-gi and Yu Seong-yeon(2012)[13].

The preceding studies analyzed the military aspects of Imjinwaeran and the spirit of Gwangmu emerged for the military confrontation and the independence movement against Japan during the late King Gojong period in the late Joseon Dynasty. It is also said that the Japanese Gangdogwan Yudo was used for the purpose of controlling the Korean Empire under the doctrine of "Naeseonilche(內鮮一體: Japan and Korea are one)".

However, from a macroscopic perspective, there was insufficient research on the military tactics used as a military martial art of Joseon for close battles. This study is to highlight missing research on the use of Yudo as a means to fight against the Japanese invaders during Imjinwaeran and in battles like Cheongsanri battle.

1.2. The purpose of the study

The purpose of this study was to examine in detail the origin of Joseon Yusool and its value as an intangible heritage from a macroscopic perspective, asking what the significance of Joseon Yusool as the Joseon Dynasty's military martial arts has as well as its historical and academic base.

2. Research Method

The method of the study was to present the influence of Yusool in close battles, which were considered important from a military perspective, by deliberately examining the value of Joseon Yusool as a martial art and as an intangible heritage and present the identity on the militaristic spirit and security concept. Historical papers, reports, books, and materials on the internet related to the scope of the research were investigated, analyzed, and discussed. The research was intended to be carried out as specific research issues related to the origin of Joseon Yusool and Yudo and martial arts from a macro perspective of the mid-Joseon and early Korean Empire.

First, Imjinwaeran and the origin of Yudo were investigated, analyzed, and discussed. Second, Joseon Yudo and Japanese Yudo that was transferred after Imjinwaeran were investigated, analyzed, and discussed. Third, the historical implications of modern Joseon military Yusool and Yudo were investigated, analyzed, and discussed. Fourth, the historical implications of Joseon Yusool and Yudo as the spirit of national salvation were investigated, analyzed, and discussed.

Therefore, it presents the identity and the origin of Joseon Yusool and its value as an intangible heritage and as military martial arts. Furthermore, it would present a new horizon in the academic world by highlighting Joseon Yusool from the Joseon military perspective.

3. Historic Implications of the Origin of Yudo and Imjinwaeran

The old physical culture is intangible material evidence representing the history of the period. This lexical expression is a messenger that delivers a message about how we will interpret the ideas and history of the time. Through this messenger, we can correctly recognize the history and identify it together. And at the same time as having a better life than in the past, it can correct the theme of the wrong perception.

As such, today's human physical culture was not born and formed in a moment, but rather was implied by the rise of the culture of the lifestyle of the ancestors over a long period of time and transformed into the lifestyle of the people. In other words, physical culture was established amid the indigenization of various cultures, including the political, economic, and social conditions of

the people, by constantly attempting to alter them. Traditional physical culture was naturally passed down over the long years with the long history of the people. All physical culture actually begins with war.

Figure 1. Portrait of Yi Deok-hyeong(National Museum of Korea).



Traditional Yusool is also rooted in war, and the word Yudo first appeared in Joseon 39 years prior to Japan. This record was made in the Annals of the Joseon Dynasty three times, and the exact etymology of Yudo and physical techniques was dated June 22, 1598. It was a time of war: Imjinwaeran, which last from May 23, 1592 to December 16, 1598.

The original script of the Annals of the Joseon Dynasty entry dated June 22nd, 1598 mentioned the word "Yudo" and physical techniques including "Yudojejisa(柔道制之使)" and "Yuneungseunggangja(柔能勝强者)."

This is about 39 years prior in Korea than the etymology of the Jinshinryu Yudo in 1637 in Japan. This is closely related to Imjinwaeran, and the first etymology and physical technique of Yudo is depicted in the Annals of the Joseon Dynasty: Seonjo by Yi Deok-hyeong who led the war to victory.

Then, the 101st volume of the Annals of the Joseon Dynasty: Seonjo, the first article in the 31st year of King Seonjo's reign, is dated June 22, 1598. This is an article that states that the Joseon military, with a military tactic that allows the second vice-premier Yi Deok-hyeong to win over Japanese enemies during Imjinwaeran, has the physical technique of Yudo as a killing tactic in close battles. A summary of this is shown below.

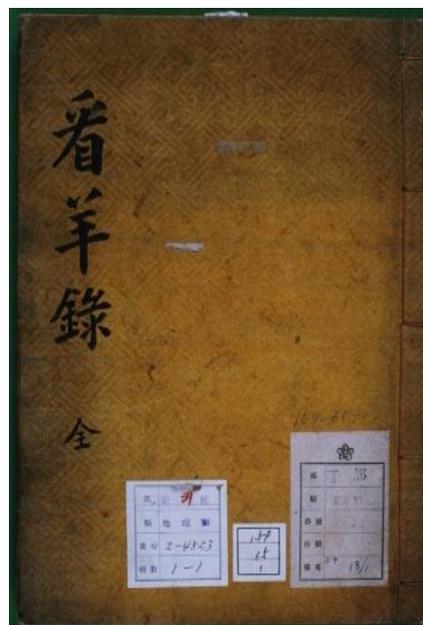
"There's been a series of secret rumors going around in the street, and things are getting worse. Some said, 'Because infantrymen don't follow orders, they are escorted separately with signalmen.'(omitted)..... There have been many ways to deal with a hasty and fierce enemy, which can be considered as a countermeasure. We must first use Yudo to subdue our opponents(柔道制之使), and after the arrogant and resentful spirit are made subdue as they have seen our acts, we must find ways to drive them away. Hwang Seok-gong(黃石公) says "softness can beat the strong(柔能勝強)" and it is a very important point.(omitted)..... the attention(耳目) of the spies dispatched by the Japanese enemy(倭奴) is spread here and there, so it should never be done this way, whether it be from the perspective of the situations or the methods(omitted)..... "There is the Japanese enemy outside, and there is the spy enemy(姦賊) inside, but there is also a great number of enemy forces(賊黨), so I don't know what will happen to the world."

As such, the Joseon soldiers were able to fight the seven-year war against the Japanese enemy, wearing armor, and dealing with the Japanese who wielding swords and rifles, as close battle combatants by holding, punching, throwing, pressing, breaking, and striking(ranpo(亂捕), rantu(亂投), ranqui(亂取)) the vital parts of the enemy soldiers with their swords and hands, completing "Yudojejisa(柔道制之使)" and "Yuneungseunggangja(柔能勝強者)". This can be seen from the achievements of Yi Deok-hyeong, Yi Sun-sin, and Joseon soldiers during Imjinwaeran. In 1595, Yi Deok-hyeong became the inspector-governor for four provinces of Gyeonggi-do, Hwanghae-do, Pyeongan-do, and Hamgyeong-do. In 1597, when Jeongyujaeran (the invasion of Japan in the year of Jeongyu) broke out, the Ming Dynasty's royal secret inspector(御史) Yang Ho(楊鎬) was persuaded to strengthen the defense of Seoul. Yi is promoted from the second vice-premier to the first vice-premier in that year. In addition, with the words of the second vice-premier Yi Hang-bok, he reached Suncheon with Admiral Yu Jeong(劉綎) of the Ming Dynasty and defeated the forces of the enemy General Konishi(小西行長), in collaboration with Admiral Yi Sun-shin. In 1601, he worked as the inspector-governor in Gyeongsang-do, Jeolla-do, Chungcheong-do, and Gangwon-do as "Haengpanjungchubusa." He became the premier the following year. As a result, the Joseon army defeated the Japanese troops who advanced with long and small swords in the field with Yudo and won the war and ended the seven-year war.

4. The Historical Implications of Joseon Yudo That was Transferred as Japanese Yudo after Imjinwaeran

It is undeniable that Yudo was introduced to Japan 39 years after Imjinwaeran if you look at the origin of the Jinshinryu Yudo(真信流柔道) in 1637.

Figure 2. Gang Hang's(姜沆) Ganyangnok(看羊錄) is an ancient book that records life in captivity in Japan during Jeongyujaeran. It records that the Joseon Yusool defeated Japanese martial art(Sumo) (the Academy of Korean Studies).



According to Kim Jae-woo and Nam Deok-hyeon, the aspects of Joseon Yusool can be seen from the Joseon's diplomatic missions to Japan after Imjinwaeran and martial arts competitions between prisoners of war from Joseon and Japanese after Jeongyujaeran as follows.

When a man from Joseon competes in the Japanese competition, if the Japanese were at a disadvantage, the life would be taken lightly and treated as a dead man. How can a man be saved?

The above record was seen by Gang Hang, who was captured by Japan during Jeongyujaeran. It describes Joseon's soldier playing a match against a Japanese martial artist. It indicates that the Joseon soldier is much better than the Japanese opponent. In addition, the other contents include the mention of Japan's sword, Joseon's bow and arrow, and close battles in the war between Joseon and Japan, as well as the strategic tactics to win the war, and that Japan is closely analyzing the military aspects of Joseon. They are recorded in Ganyangnok(看羊錄) from September 23, 1597 to May 19, 1600.

Gang Hang(1567-1618), a scholar and leader of the Righteous Army of the mid-Joseon Dynasty, was an officer working for "Bunhojopanseon" Yi Gwangjeong during Jeongyujaeran. He did his best in military supply missions in Namwon, but went to Yeonggwang, his hometown, after Namwon fell. He recruited and fought for the righteous army, but the situation was unfavorable. Thus, he attempted to enter the military under Admiral Yi Sun-shin, but he became a Japanese prisoner on his way to the south, creating a life-long story that is Ganyangnok(看羊錄). As a prisoner, he was taken to Osaka, Japan, in 1598 to educate highly educated monks in Hushimi Castle, Kyoto, and Shuku(肅), one of the monks, quit as a monk and became a Confucian scholar.

He is Fujiwara Seiga(藤原惺窩, 1561-1619), who became a pioneer in Japanese neo-Confucianism, and had many theoretical effects on Japanese martial arts as Toegye Yi Hwang's Gyeongcheolhak spread. Gang Hang smuggled information on Japan at the time to Joseon by writing about the Japanese territory, military facilities, and the enemy's government. He was released from captivity in 1600 and returned home with his family. He participated in the publication of Hwahunbon(和訓本), writing its epilogue, and left Ganghanghuicho(姜沆彙抄), which includes "Gokryejeongyeong(曲禮全經)," "Sohak(小學)," "Geunsarok(近思錄)," "Geunsasokrok(近思續錄)," "Geunsabyeolrok(近思別錄)," "Tongseo(通書)," and "Jeongmong(正蒙)." All of them are housed in the Japanese cabinet library, and they inherited the mind method(心法) and physical philosophy as "juilmujeok" and "shimpyeongchejeong," the ideas from Toegye Yi Hwang's Gyeongcheolhak, to Japanese Yusool and Yudo to produce results that led to Dakuang(澤庵).

As evidence of this, the ancient paintings presented below shows that the Japanese martial artist and Joseon soldier had a duel as Yusool. This was the result of the seven-year war, and at first, the Joseon army was defeated by the Japanese army with long swords, but with a new method, they won the victory through combatant techniques in close battles.

However, during the defeat period, Japan wanted to acquire and adapt to the Joseon's military technique of Yusool with competitions. The existence of such records and ancient paintings makes it undeniable that the origin of Yusool is Joseon Yusool.

The following enlighten us further on this.

Starting from the first day, each house with a man stands a paper flag and uses it as a tool to report a fight to build courage beforehand. On this day, the children are gathered here and there, forming confrontation(對陣), and they are fighting with stones(投石戰), just like the Korean traditional play of Gakjeo(角觝).

This record was a journey record by Hongmungwangyori Gyeongseom(慶暹), who visited Japan as a member of the diplomatic mission in 1607. According to the record, the author calls the game

of stone fighting(石戰) Gakjeonori(角觚之戲), which should be regarded as an act of conquest of the opponent as the fighting element of battlefield Yusool to win a war(亂).

Japan's holidays are the same as Korea's, but the first day of August and the first day of October are also the days for ancestral rites(俗節), and Dano and Baekjung(Ghost Festival) day are the most suitable day(佳節). In Dano, every house has its own flag set to learn war techniques, which is like a sort of martial art sparring between two men in Joseon.

This record is a journey record of Shin Yu-han(申維翰) during the Sukjong period, who visited Japan in 1719 as a member of the diplomatic mission. It states that Japan also plays "war games on Dano Day. It is the same as the martial art competition in Joseon." After more than a decade, it expresses a battlefield combat technique similar to that of Yusool in the same sense as the lexicon of Gang Hang.

Meanwhile, after the war, Japan developed further forming more schools. The background of the establishment of Japanese Jinshinryu Yudo(真信流柔道) is as follows.

Shibukawa-ryu(渋川流) was caused by Shibukawa Bangoro(渋川伴五郎義方), a disciple of the second-generation Hachirouemoncieop(八郎右衛門氏業) of Sekkigujishineum-ryu(関口新心流). His birth is said to be Daiwa(大和), but there is no established theory. The documents documenting the history of Sekkigujji-ryu(関口流) of the volume of Gulnaeshin(堀内信) of 南紀徳川史 described it as learned from Yushim(柔心) of Uibang(義方), but "Gibeonyudoljip(紀藩柔咄集)" and "Bonjomuwunsojeon(本朝武芸小伝)," which mentioned Yusool(柔術) of Giju(紀州), recorded that it was taught by Cieop(氏業). Shibukawa-ryu(渋川流) is thought to have been theoretically clustered by the first Uibang(義方), the second Yunchin(胤親), the third Jagu(資矩), and the great-grandchildren Siyeong(曾孫時英).

The history of the SangmugwanYusool(尚武館柔術) states: The teachings of Yusool were expanded by Gwangyushim(関口柔心) of Gwanyeong(寛永), then reached to Sapcheonbanoranguibang(渋川伴五郎義方) with all the efforts put as Banyunchin(反胤親). Thus, an orthodox school was founded and the Muidang(武義堂) School was established to train disciples. It was named SapcheonryuYusool(渋川流柔術). His grandson Jagu(資矩) became more aware of the way and his great-grandson Siyeong(時英) called it "Gisebeop" and collected and re-established the excellent techniques.

According to "Ilbonmuwunsojeon(日本武芸小伝)," it was in May of 1711 that Uibang(義方) learned Shibukawa-ryu(関口流), when he was 29 years old. He immediately opened Doeunggwang(道凝館) school under the wall of Hwagasan Mountain(和歌山). He also reopened the Muidang(武義堂) school in the Guboseongsan(西久保城山) area of Edo between 1681 and 1684 of Cheonhwa(天和). The area is now the Tokyo port area(東京港区), and he held the position of Nojung(老中). It was the prime minister for political affairs under the direct control of the general, and he was protected by Abufunghusu(阿部豊後守), Tooksangmosu(土屋相模守), and Tojwabeonsusannaehu(土佐藩守山内侯) and expanded his power. Gido-ryu(起倒流), one of the traditional forms of Yusool, began with Fukuno-ryu(福野流) Yusool, which was invented by Masakatsu Fukuno(福野正勝). Fukuno, the founder of the school, was born in Seopjinnanghwa(摂津浪華). This area is currently a Daepan(大阪: Osaka).

It was transferred from Sajeonpyeongjwawimunjeong(寺田平左衛門定安) as Fukuno-ryu(福野流) to Sajeongamwuwimunjeongjung(寺田勘右衛門正重) and began in earnest through Gyeonggeukdanhusugoguk(京極丹後守高国)'s subject Bokyaengeungseung(福野正勝), the 3rd generation, and re-named as Gido-ryu(起倒流). According to the records of Hwangsan-geondangci(横山健堂氏), Gido-ryu is the same school with Fukuno school, and under the name

of Hoemokjeonjae(栢木專齋), Sajeon(寺田) referred the school to which his own belonged "Jinshin-ryu Yudo(真信流柔道)." He was the first person to change the name to Yusool or Yudo.

In general, however, it is said that Gido-ryu was established by Sajeonpyeongjwawimun-jeong(寺田平左衛門定安) reaching the third generation from Fukuno(福野), but errors were generated that Jinwonbin's(陳元斌) martial arts of the fist was passed on to Japan traditional Yusool at Gukjeongsa(国正寺) of Edomapo(江戸麻布). Gido-ryu is a martial art with a different nature from the martial arts performed by Jinwonbin and had a different form of physical technique. Gamwuwimun(勘右衛門) first served as a warrior for Gyeongju(京極高国), but later became a warrior of Songganhgu(松江侯) and died on August 17, 1674, at the age of 57. Gilchon-byeongjobusu(吉村兵助扶寿), one of his disciples, was a distinguished figure. He later became a warrior for Jakjujinsan(作州津山)'s Samga(森家) and was given 200 units of rice.

In 1637, the year of Jamokwujwawimunhubang(茨木又左衛門後房), the compendium of Gidoryuranmokrok(起倒流亂目錄) was compiled. When he compiled the text, he took "Ran(亂)" to Dakuang(澤庵), the Zen monk, who gave it to him in two separate volumes of "Bonche(本體)" and "Seonggyeong(性鏡)" of "Gidoryuran(起倒流亂)". From this, Gidoryu(起倒流) adopted Shim-beop(心法) of Seon(禪: Zen) and integrated the compendium. The technique consisted of 5 basics of Che(體), Checha(體車), Jeong(請), Jwawu(左右), Jeonhu(前後) and further include 5 techniques of Yukkisure(行連), Yukkichigai(行遠), Yukkiate(行當), Mikudakki(身碑), Tanisuberi(谷滑), and further to 15 such as Hikkiochi(引落) and Seihonawa(生捕繩).

After Imjinwaeran, Japan's Yusool world became the driving force behind the establishment of a new military martial art system that completely defeated the enemy by cutting and stabbing enemies with long swords, then throwing, pressing, and breaking them. This created an opportunity for the Japanese military martial arts to develop further. In addition, Japan secured the strongest military power among East Asian countries.

5. Re-Examination of Modern Joseon Military Yusool and Yudo

In April 1895(the 32nd year of King Gojong's reign), the Royal Military Academy of the Korean Empire organized Hunryeondae, a new military training unit, and in May, a training center was set up to train and command them.

In particular, after the disappearance of the old-fashioned army, the training center of the Joseon Royal Military Academy was the first educational institution established under the leadership of the Japanese colonial government. In 1895, however, it was abolished in September by intervening in the assassination of Empress Myeongseong(明成皇后) in August.

What is noteworthy here is that the main enemies of the assassination were former members of the Black Dragon Society of the Mudeok Society of Japan, which became a cause of the abolishment. After the death of Empress Myeongseong, a military academy was established with the decree of control for the military academy following the need to support Joseon military academy in January 1896. However, within a month of its establishment, the academy was once again rendered useless by Agwanpacheon(俄館播遷: Korea royal refuge at the Russian legation).

However, in 1896, the academy trained five graduates with a year of education. Park Seung-hwan, the first leader of the Korean Imperial Army's protesters who committed suicide when the pro-Japanese cabinet and the Japanese imperialism forcibly disbanded the army, and Sa Jae-heup and Shin Pal-gyun, who staged an armed anti-Japanese movement as the Korean Independence Army, were among them.

In addition, after Emperor Gojong's refuge at the Russian legation in 1896, the Japanese colonial power temporarily shrank. In other words, it is a time of confrontation between Russia and Japan. In order to disperse the power of the Japanese Empire, Emperor Gojong returned to the palace in February 1897, and the Korean Empire was declared, and in June 1899, the recruitment of the first cadets of the Korean Military Academy began. At that time, the quota was 200. However, more than 1,700 applicants applied for the academy, which was a fierce competition rate surpassing that of the current military academy. Perhaps it was the spirit of national salvation. In addition, on July 1, the Joseon Military Academy was established as a member of the military as an effort to save the nation, which was proposed by the military deputy minister under the slogan of "revive the militaristic spirit of the Joseon military." It was a modern military educational institution in the Korean Empire with the emperor's declaration of Imperial Decree No. 11, "Military Academy Control" [13].

In particular, the school staff consisted of one principal (advice chief of the military), one deputy, officer, and head instructor, three instructors, eight assistants, translator, assistant translator, manager, and messenger. The requirements for admission to the academy defined by a military minister are as follows: they should be recommended by a commander or officer of the military and among those who are healthy and intelligent between the ages of 20 to 30. However, it was a rule that the recommender should be held responsible even when the cadet quit the academy. In addition, among the three departments, the first and second departments were a shortcut course where the cadets were taught and trained for a period defined by the military minister and the third department was the graduate course where the cadets were required to receive five years of education for graduation. The cadets were given a certain allowance as well as the government-funded education.

Classes included martial arts, military arts, military discipline, hoplology, fortification, geology, foreign languages, military hygiene, and horsemanship, and training included drill, horseriding, gymnastics, swordsmanship, Yusool (Yudo), and military orientation and education. Not only Korean, but also Russian, American, and Italian professors and instructors worked at the academy, and none of them had a spy relationship with Japan.

In 1899, the Joseon Military Academy was moved to the jurisdiction of the Supreme Military Office (元帥府), and the scope of its recommendation was expanded. In other words, the entrance age was reduced to 23 years or younger, while up to 50 private students were allowed to enter. At that time, the number of government-funded students was usually 200. Later, 128 first graduates, including Chang Yeon-chang (張然昌), were graduated in January 1900. Under the revised regulations in September of that year, academic education was allocated to the instructor corps and training was allocated to cadet corps, and the military training began in earnest.

However, the Japanese colonial government, which won the Russo-Japanese War in 1904, abolished the original headquarter and transferred the military academy to the newly established ministry of education in September. When the Ministry of Education was abolished in February of the following year, it was again directed and supervised by the military. At that time, the cadets were required to be taught and trained for three years as graduates of Yuneon Academy (幼年學校). In September 1904, the period of graduation was extended to a total of six years by turning the military academy into an officer training institution and abolishing the existing system of recommendation and admitting three years of graduates from the Yuneon Academy.

In addition, Wolnam Lee Sang-jae, who could not defy King Gojong's mournful command after Eulsajoyak (乙巳條約: Japan-Korea Treaty of 1905) was forcibly signed, served as Uijeongbuchamchan for a while.

1906 was the time when the YMCA Hwangseong Christian Youth Association decided to establish the Joseon Yusool Department as part of the spirit of national salvation to foster 100 strong men. In 1907, when the army was disbanded, it was negotiated with the military minister, but they rejected it. Then the YMCA Hwangseong Christian Youth Association put all its efforts into nurturing young talents of the Korean Empire. In August 1907[14], when the Japanese colonists forcibly disbanded the Korean military, the volume of recruitment for the military academy was reduced to 15, but it was also a time when General Kim Jwa-jin emerged.

Then, in September 1909, when the military academy was abolished, a royal edict was issued that the training of military officers was entrusted to the Japanese government. It was only for six years from 1898 to 1904 that the military academy, which was established with the reorganization of the modern military system, did function. General Kim Jwa-jin, who led the Battle of Cheongsanri, also graduated from the Korean Empire Military Academy, started Joseon Yusool, and it was recorded as his main specialty in confidential documents of the Japanese Ministry of Foreign Affairs. At this time, it was called Joseon Yusool rather than Yudo.

"In 1920, General Kim Jwa-jin won a great victory against Japanese troops in the Cheongsanri area," said a classified Japanese document obtained by KBS reporters. "Kim Jwa-jin is a 36-year-old commander-in-chief, his specialty is Yudo, he is very tall, and his face is oval." The report also said that the details of the individual characteristics of the military officials of the independence corps, including General Lee Bum-seok, were written in the document. In addition, he was a graduate of the Korean Empire Military Academy in 1905 and was believed to have been taught Joseon Yusool by Na Su-yeong.

6. Historical Implication of Joseon Yusool and Yudo as the Spirit of National Salvation

In 1906, before the introduction of Gangdogwan Yudo to train 100 strong men as part of the national salvation by Wolnam Lee Sang-jae, Na Su-yeong was already a martial artist of Joseon Yusool. A record of sending military officials to Japan during the reign of Emperor Gojong to exchange Joseon Yusool and Gangdogwan Yudo appeared in the Annals of the Joseon Dynasty in 1906.

As part of martialism, the Joseon Yusool Department was started by Emperor Gojong, Wolnam Lee Sang-jae, 100 strong men, and Ryu Geun-su and Na Su-yeong from the Imperial Military Academy. In addition, between 1901 and 1903, a total of eight Koreans were involved in the induction of Gangdogwan, including Shin Sun-seong, Jeon Yeong-heon, and Kim Ik-sang in 1901, Song Jaegwan, Yu Dong-geon, Han Gyu-bok in 1902, and Yu Dong-su and Na Geum-jeon in 1903, and later, Japanese Gangdogwan Yudo was introduced Japanese.

However, in late 1900, Ryu Geun-su and Na Su-yeong, both graduates of the Imperial Academy, have no records in Japanese Yudo schools and neither does Chenpunghaeseryu(天風海勢流) exist. It is inferred that the catchphrase and group name by Wolnam Lee Sang-jae to defeat the Japanese imperialism and raise the Korean Empire was "Cheonpunghaese(天風海勢)" and Joseon Yusool at the time was Chenpunghaeseryu(天風海勢流). In particular, Na Su-yeong taught Kim Hong-shik and the Japanese, and there is the picture, which is proof that the whole process was taught.

In particular, Ryu Geun-su and Na Su-yeong were from the military academy during the reign of King Gojong, and there was already Korean-style Yusool. Joseon Yusool began with Na Su-yeong and Ryu Geun-su in earnest. The Joseon Hwangseong Christian Youth Association opened its first Yusool school, with the total number of visitors reaching 90 over 26 years[15].

However, according to Kim Chun-bok, Ryu Geun-su was originally a swordmanship major, so he had little knowledge of Yudo. But it was possible in basic leadership skills. The following is a reference to Ryu Geun-su and Na Su-yeong by the Central Christian Youth Association.

One day, Ryu Geun-su gathered a lot of young people and taught Yudo. A young man dressed in a loose uniform came in and watched the school closely. As if he were not yet twenty years old, he had a fine face and a small figure.

When asked politely whether he could spar against young people who were in training, he might approach them without fear. A young man, who is not yet fully grown, borrowed his uniform and rushed at the young people who were likely to knock down even a bull. Many people around watched the scene of their sparring with bated breath.

However, everyone's idea that the big young man like a bull would win was wrong. At the start of the match, people around them only believed that something must have been wrong when a large trainee fell off several times with a shout.

It was only then that a small-sized young man continued to knock down the students of the school on the mat that they were impressed by the excellence of technology and finally realized the tricks of Yudo. It was a young man named Na Su-yeong who showed the essence of Yudo to many young people. In 1910, Ryu Geun-su willingly handed over the position of a master to Na Su-yeong, who had mastered Judo's Yuneungjegang(柔能制剛), and they became sworn brothers. Later, Ryu Geun-su went down to Daegu and established Yeonmugwan(鍊武館). Na Su-yeong worked hard to train his juniors based on his skills. He became a fugitive in connection with the independence movement in 1913 and defected to Gando[16].

So Na Su-yeong worked hard to train his juniors and students based on his skills, and Kim Chun-bok testified at the time that Na Su-yeong had different technique from the Japanese Gangdogwan Yudo. It was Joseon Yusool and Cheonpungseaheryu(天風海勢流). Cheonpungseaheryu(天風海勢流) needs to be mentioned. Na Su-yeong's Yusool was Cheonpungseaheryu(天風海勢流). Thus, the YMCA Yusool Department gave the blackbelt certificate to Kim Hong-shik, the first blackbelt holder, and it states that the blackbelt is given to the person who learned the physical technique of Cheonpungseaheryu from a nobleman.

According to the compendium, if one can use three secret techniques, nine killing techniques, and six laws of murder, and six resuscitating techniques, the one will be given a blackbelt certificate. Among them were Kim Sang-ik, Park Jae-yeong, Ho Gi-pung, Kim Hong-shik, and Lee In-man. Although Park Jae-yeong, a student of the school, was blackbelt certified, he died while defecting to Manchuria involving the independence movement and being an instructor at Shinheung Military Academy after he met his teacher Na Su-yeong during the Japanese colonial era. If this material comes out into the world, the traces of Joseon's modern Yusool will become more solid.

Before the introduction of the Japanese Gangdogwan Yudo into Joseon, Yusool already existed. Considering the name "Yusool" in the 1914 sports report and the testimony of Na Su-yeong's student, Kim Hong-shik, Jeon Taek-bu's claim should be acknowledged.

It has nothing to do with Ganogigoro's(嘉納治五郎) Japanese Gangdogwan Yudo, which was founded in 1882. As shown in the previous text, it is undeniable that Japanese Yudo was introduced after Imjinwaeran. Also recorded in the Annals of the Joseon Dynasty: Gojong is that Emperor Gojong dispatched military officials to investigate Japanese Yusool and swordmanship in 1898 and to return to Korea as soon as possible in 1906. It was led by Na Su-yeong, the master of Joseon Yusool, defeated Japanese Yudo and Wolnam Lee Sang-jae to further develop own Joseon Yusool. To sum it up, it should not be forgotten that the origin of Yusool was Joseon, which began

with the spirit of the national salvation. However, Joseon Yusool Department was dismissed by the atrocity of forcing it to incorporate as the "Joseon Branch of Gangdogwan of the Great Japanese Empire." As a result, only Kim Hong-shik remained in Gyeongseong, and Na Su-yeong and his students went to Manchuria to participate in the Korean Independence Movement.

The Joseon Yusool Department was forcibly incorporated into the "Gangdogwan Joseon Branch," but was taught by Na's disciple Kim Hong-shik and his junior Jang Gwon, and Na's technique was the prototype of Gangdogwan Yudo. The slogan, which was intended to overcome the Japanese colonial rule and create the Korean Empire, was inferred as Cheonpunghaeseryu(天風海勢流) in 1909, where "se(勢)" is a proper noun used by the ancestors for languages related to martial arts of the fist, weaponry, and physical technique included in Muyedobotongji(武藝圖譜通志).

It was Na Soo-young, the leader of the early YMCA Yusool Department. His disciples were Kim Hong-shik and Jang Gwon, and their disciples dominated the Japanese Gangdogwan, among which was Lee Seon-gil. He was a figure who dominated the Japanese Gangdogwan Yudo from 1930 to 1940s. After the liberation, he went down to Daegu, the home of modern martial arts, to train the upcoming generation.

The following are the historical records of the Joseon Yusool Department[17].

「Chosun Ilbo」September 22, 1928 Evening edition page 4 【original text】開城柔道部模範大試合. 開城中央會館柔道部 is a Yudo school that has a long history of 四個星霜 and raised tens of warriors, 師範金弘植's 熱心教授 and does 日進月長 and this time 高風清秋節(omitted)..... to boast of technique learned in this month for two days at 開城座(omitted)..... will host 天風海勢流體術及模範柔道大試合 and expect to succeed in 活動寫真映寫.

To summarize the above article, it was recorded that Gaeseong held a competition of 模範柔道大試合with 天風海勢流體術 sponsored by the Ministry of Sports and Gaeseong branch of the newspaper.

「Chosun Ilbo」October 13, 1928 Evening edition page 2, 柔道輸入廿年來 特筆演武大會. The first introduction in Joseon of Judo by Youth Society Joseon Yudo! This was the first time in the Joseon Dynasty, more than twenty years ago, when.....(omitted) ... Central Christian Youth Association started practicing Yudo as the organized beginning of Yudo, and they started encouraging Yudo as a discipline in Joseon. For years, the Yudo Department of the Youth Association has been independent and has not neglected its activities since then, and since last year, the Yudo Department holds a competition event ...(omitted)..... was new, the annual event is to be held at the Jongno Youth Assembly Auditorium from tonight(omitted)... Jang Gwon, the leader of the first meeting says, "The events in the order were imported into the Yudo world through the efforts of the advanced countries, so it is necessary to say again about the technique of the self-defense method." ...the type of self-defense is 天神眞揚流柔法護身術. The method is about holding, striking, releasing, pressing(omitted)..... to control will attack.(omitted) its value and effect is great as they are secret technique of 天神眞揚流.....

紅白兩軍 龍虎相搏
Wild competition as stage spectacle
痛快無比 場面

At the martial art competition, the scene where the warriors of the day flew like dragon and tiger the plain and saw the fierce battle of ranpo, rantu, divided into red and white sides, and

saw the scene of the tiger, is a place where it is a delightful.....(omitted) ...it's all the more noteworthy [18].

To summarize the above article, it is the second martial art competition by the Central Christian Youth Association.

「Chosun Ilbo」 October 23, 1929 Evening edition page 2. 柔道二十年 中央基督青年會 張權, 第一回全朝鮮團體柔道大會 is sponsored by 中央基督教青年會 柔道部(omitted)..... The ideal to make Yudo the heritage of Joseon, many masters and teachers 先輩 spirit and efforts 犧牲的奮鬥 努力 to be continued..... to implement the ideal the first step is to the names of the techniques 技術 名稱 in Korean 容易 要領 the skills to be understood with 原名 會得 一里 is logical response 橫落 遇返 巴投 but some names are to be remained original 三鍾 不得已橫落 原名(omitted)..... some skills 巴投 星霧 when two practitioners combine 巴投 二人 physically 合 星霧 恰似 different from the past 左記 is the name of the technique inside 『 』(omitted)..... refer to them with responsibility 責任感 to make them perfect.

Kim Hong-shik graduated from the Department of Steel Engineering and became an employee of Y and was in charge of lantern(omitted)..... treated the staff poorly. Among them, Choi Sang-Ho was rumored to be the most talkative and arrogant.

It was during "Christmas." It was heard again in the midst of more and more work to turn the lights. Kim Hong-shik was angry and went to the room where Choi Sang-ho was. with a bang on the door(omitted)..... tell me straight or I will kill you!" made the threat Choi Sang-ho was scared because he knew Kim Hong-shik was a Yudo master and brawler and ran through the window, seriously injured by myself.

Lee Sang-jae thought Kim Hong-shik hit and injured him, so he called Kim and scolded him severely. Mr. Kim came back home crying because he believed Wolnam also despised him.

Then there was a big commotion inside the YMCA. Because Kim Hong-shik was the only one who can deal with the lights. People were just pouring in to see the order of "Christmas" advertised in advance. So Mr. Kim was summoned several times. But(omitted)..... Later, Wolnam visited him in person. Kim Hong-shik's father was surprised and asked his son to meet Wolnam, saying, "Mr. Wolnam came to see you in person."

Then Kim Hong-shik said, "I would meet living Wolnam, but not dead Wolnam." After hearing this, his father hit his head with a tobacco pipe, and the scar from it remained.

After that, when Kim Hong-shik went to Shanghai, he said, "Hong-shik! You once said I was a dead man, right? Then I was so angry that.....(omitted)..... I don't think I'll be able to relax even if I hit you bad face down." Kim remembered him saying "Please go and do a lot of great things." After that, Kim Hong-shik went to Shanghai to help the provisional government figures and did his best. In particular, he carried a secret letter from Dr.

Lee Seung-man and infiltrated the country several times. Of course, I didn't know what the secret letter was about. As he put it on the sole of his shoes, he used to visit Wolnam and said, "Master, there's a letter in my shoes," taking off his shoes[17].

To spread Yudo widely away from traditional Chinese characters, the Korean Hunminjeongeum was used, which looks like the following:

Meeochigi 技術 原名 技別 Mureupjiigi 支膝 膝車 足技 Darijiigi 支脛 支釣込足 足技 Woigungdungjapyi 雙腰 淳腰 腰技 Huryeochigi 搏投 體落 手技 Wideotgeori 上外掛 大外刈 足技 Apdarichigi 前足◎ 出足掃足 足技 Moroddeoleojigi 橫落 橫落 橫捨身技 Eokgaenuomeojigi 尾越 脊負投 手技 Jamtu 潛投 過返 身技 Araedeotgeori 下外掛 小外 足技 Mokcigi 挾頭 ◎車 腰技 Seongmu 星霧 巴投 眞捨身技 Gungdungjapyi 腰投 大腰 橫捨 腰技 Duiroddeoreojigi 後落 谷落 身技 Modugeori 追蹠 送足掃 足技 Darideulmyeochigi 舉股 掃腰 腰技 Heorideulgi 舉膜 後腰 腰技 Deuleochigi 舉投 裡落 眞捨身技 Wiangeori 上內掛 內股 足技 Ddideulgi 帶拚 帶落 手技 Mureupnalnigi 揚膝 跳腰 腰技 Seoleochigi 引投 浮落 手技 Nuyeoseolgi 臥根 浮業 橫捨身技 Duigulneochigi 後輾 抱分 橫捨身技 Meyeochigi 雙投 尾車 手技 Baldoseuleochigi 跋投 引込返 眞捨身技 Batgameochigi 外卷落 外卷込 橫捨身技 Heoriseolgi 損腰 損腰 腰技 Duideuleochigi 返投 移腰 腰技 Batdarinureugi 外腿押 大外落 手技 Aneoneomeojigi 抱返 俵返 眞捨身技 Apgulneochigi 前輾 橫車 橫捨身技 Mitgeureochigi 蛇落 橫分 同上 Angameochigi 內卷落 內卷込 同上 Araeangeori 下內楫 小內◎ 足車 Mureupjapgi 制膝 足車 足技 Meddeoleochigi 掛落 脊負落 手技 Darihurigi 追脛 掃釣 足技 Gitseolgi 擊襟 山◎ 足技 Darihuigi 淚脚 大外車 足技 Moroseureochigi 橫倒 橫掛 足技 Mureuppyeogi 伸膝 釣込腰 腰技 Nureugi(仰技) Geotnureugi 側仰 袈裟固 Eokgaenureugi 尾仰 尾固 Winureugi 上仰 上四方固 Wimodunureugi 崩上仰 崩上四方固 Darironureugi 脛仰 淨固 Joreugi(絞技) Eotjoreugi 斜絞 片十字絞 Palrojoreugi 腕絞 裸絞 Duijoreugi 後絞 送襟絞 Wegitjoreugi 片襟絞 片羽絞 Werojoreugi 逆絞 逆十字絞 Barojoreugi ◎絞 並十字絞 Mireojoreugi 推絞 突込絞 Ssangwejoreugi 雙逆絞 兩手絞 Ggeokgi(關節絞) Palggumchi-huigi 捩肘 腕緘 Japaggeokgi 遛◎ 腕挫 Wumkeoggeokgi 掬肘 腕挫腕固 Mureupeuroggeokgi 捩膝 足緘[18].

As seen in the above article, the Korean Hunminjeongeum is used to make Yudo widely available from traditional Chinese characters. Before that, it was a Chinese expression, but it is noteworthy that it was arranged in Korean with the old Hunminjeongeum. Although there were some differences in the name and physical technique of Kim Hong-shik, the direct disciple of Na Soo-young, the master of Joseon Yusool, it was re-established as a unique Joseon Yudo textbook.

At that time, Kim Hong-shik was a master pursuing a gentle Yusool similar to other martial arts like Taekgyeon, but had a different sense and orientation to continue the tradition, as a direct student of Na Su-yeong. Master Jang Gwon's Yudo and Kim Hong-shik's "Cheonpunghaeseryu" were combined as a Joseon-style Yusool, which was passed down to the Daehan Yudo School, an educational institution affiliated with the Joseon Yudo Federation, which had a value a national treasure.

The Japanese Yudo's Hyeong(Kata) pursued an established framework, and Joseon Yusool(Yudo) pursued physical techniques as logics of everything flowing with softness. The main ideas are different from each other as well. Japan calls them "Jatagongyeong(自他共榮)" and "Jeongryeokseonyong(精力善用)," and Joseon, the originator of Yusool, has them as "Yudojejisa(柔道制之使)" and "Yuneungseunggangja(柔能勝強者)"[19].

Also, General Lee Beom-seok, the first principal of the Korea Yudo School, the predecessor of Yongin University, was a former instructor at Shinheung Military Academy. He readily accepted the first chairmanship of the Joseon Yudo Federation in October 1945. Later, in November 1950, the Korea Yudo Federation and Daehanyeonmugwan were merged into the Korea Yudo Association, and he served as the first president.

On June 15, 1953, he became the first principal of the Korea Yudo School. In September of the same year, Lee Seung-man was pressured to remove Jokcheonggye, and he resigned as the principal of the Korea Yudo School on October 1 and as the chairman of the Korea Yudo Association

in December 1954. While assisting General Kim Jwa-jin, he heard that Joseon Yudo(Yusool) was introduced at the time of Imjinwaeran. The willingness to accept the first chairmanship became the driving force behind the establishment of the Daehan Yudo School with the aim of protecting and inheriting Joseon Yudo to Lee Je-hwang and others related to Yudo[20].

Figure 3. Yu Chang-ho's "Joseonmudogwanyudodaeui"(1926: 大正 16). It is the first Korean-language Yudo book published by Dongyangseowon. It mentions the origin and historicality of Yudo, distinguishing it as Joseon Yudo and Japanese Yudo. He founded the Incheon Mudogwan in 1927.



On the discovery of the origin of Joseon Yusool, Lee Beom-seok, Gang Nak-won, Yu Chang-ho, Lee Seon-gil, Kim Hong-shik, Lee Je-hwang, Nam Jong-seon, other Yudo instructors, scholars, newspaper articles, various Yudo related books, and Seonggok Flag and Cup Competition brochures have mentioned countless times that Yusool was transferred to Japan at the time of Imjinwaeran. In addition, ethnologist An Ja-san's "Saga of Joseon Warriors[21]" Jeong Hee-jun's "Dictionary of Old Joseon Language(1949)[22]," and Shin Chae-ho's "Ancient History of Joseon" mention that Yusool belonged to Korea and were transferred to Japan with the related records in detail. This allowed us to find the clues after years of research and investigation. Without their noble spirit of martialism, we would not have been able to find out. In the future, it is up to the descendants to inherit and develop their own Joseon Yusool.

7. Conclusion

This study presented the historical source of the Joseon Yusool, which is the origin of Yudo. The background of Joseon Yusool and its spread to Japan after Imjinwaeran were reviewed in detail and its influence as the identity of the Korean independence movement against the Japanese colonial era was presented, which leads to the following conclusion.

First, the etymology and origin of Joseon Yudo can be found in the Annals of the Joseon Dynasty: Seonjo(June 22, 1598) during Imjinwaeran. Lee Deok-hyeong recorded as follows: "The Joseon army was able to defeat the enemy with the spirit of "defeating the enemy using Yudo first(柔道制之使)" and "softness win the strong(柔能勝强者)" and won the war, wearing armor and dealing with the Japanese with swords and rifles. In addition, the Annals of the Joseon Dynasty: Seonjo detailed the etymology of "Yudo" and the physical techniques in the war.

Second, the fact that Yudo was introduced to Japan through exchanges between Joseon and Japanese diplomatic missions after the 39th year of Imjinwaeran is undeniable even by the lexical expression related to the origin of Jinshinryuyudo(真信流柔道) in 1673. At the time, Japan's martial arts world established new war physical techniques. It was established as a Japanese military martial art with cutting and stabbing the enemy with a long road, and then completely defeating the opponent by throwing and pressing the opponent. As a result, the Japanese military martial

arts became more advanced and had the strongest military power among East Asian countries. The Japanese Gangdogwan Yudo also originated from Joseon Yudo.

Third, the Royal Military Academy of the Korean Empire was established in April 1895(the 32nd year of King Gojong's reign), and a training center was established in May to train and command new military officers. The Japanese Foreign Ministry records in 1919 have it that General Kim Jwa-jin, who led the Battle of Cheongsan-ri, had excellent skills in swordsmanship, marksmanship, Yudo, and horseriding when he was a military officer of the Joseon Military Academy(1905). When the Military Academy was abolished in September 1909, the Joseon Military Academy, which was established with the reform of the modern military system, played its role from 1898 to 1904. Joseon officers and soldiers practiced Joseon Yusool as part of national salvation. In 1911, Yi Geuk, graduated from Shinheung Military Academy, was a Yudo instructor and called it Joseon Yusool, rather than Yudo.

Fourth, Na Su-yeong and Ryu Geun-su were already Joseon Yusool practitioners before the introduction of Gangdogwan Yudo in 1906 when Wolnam Lee Sang-jae tried to train 100 strong men as part of the national salvation. Joseon Yusool Department was started by Emperor Gojong, Wolnam Lee Sang-jae, 100 strong men, and Ryu Geun-su and Na Su-yeong from King Gojong's Imperial Academy. Na Su-yeong's Joseon Yusool was Cheonpunghaeseryu(天風海勢流), and the first blackbelt holder Kim Hong-shik was given a first-degree blackbelt certificate at the YMCA Yusool Department. Yusool existed before Gangdogwan Yudo was introduced to Joseon. There was the name of Yusool in the 1914 Sports Ministry report. "Joseon Yusool Department" was dissolved by the atrocity of forcibly incorporating it into "Joseon Branch of Gangdogwan Yudo of the Great Japanese Empire." As a result, only Kim Hong-shik remained in Gyeongseong, and Na Su-yeong and his students went to Manchuria to participate in the Korean independence movement. Kim Hong-shik also served as a bridge between Wolnam Lee Sang-jae and the figures of the provisional government of the Korean Empire. Kim Hong-shik systematically led the tradition of Joseon Yusool. General Lee Beom-seok, the first principal of the Korean Yudo School, the predecessor of Yongin University, was a former instructor of Shinheung Military Academy and was transferred to the Daehan Yudo School, an affiliated educational institution of the Joseon Yudo Federation. Joseon Yusool was valuable as an intangible heritage.

To sum up, Joseon Yusool was introduced to Japan after Imjinwaeran, and it was the noble spirit of martialism among ancestors. We should preserve, inherit, and develop the spirit and intangible cultural heritage of Joseon Yusool[23].

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9. Contribution

9.1. Authors contribution

	Initial name	Contribution
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Corresponding Author*	CHM	-Significant contributions to concepts, designs, practices, analysis and interpretation of data <input checked="" type="checkbox"/> -Participants in Drafting and Revising Papers <input checked="" type="checkbox"/> -Someone who can explain all aspects of the paper <input checked="" type="checkbox"/>

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The Advent of AI and Its Some Implications to MILITARY AFFAIRS

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Abstract

In recent years, the moral development of driverless cars has been receiving much attention. It believes that when faced with danger, robot drivers need to make the same or even better choices as humans. In other words, people hope that Artificial Intelligence(AI) drivers and human drivers have similar moral tendencies and behaviors. This article discusses the relationship between AI cars and ethics in three parts. First of all, AI originated in the 1950s, but only the development of cars is relatively slow. At this stage, AI cannot yet replace human drivers. At present, AI vehicles rely on a three-layer control system to complete automatic driving, including the upper control system(cognition), central control system(perception), and lower control system(reflection). Second, in human moral behavior, moral tendencies and moral capabilities are not separate components. They cannot separate from behavior, nor can they be separated from each other. It can find through L. Kohlberg's moral tendency stage that most humans have reached the third stage of moral tendency in adulthood. However, combined with G. Lind's research on moral competence, it can be found that not most people possess the high moral competence. Third, in order to replace artificial drivers with AI drivers, combine three levels of control with moral theory. They were thereby improving the moral judgment ability of AI drivers. Through analysis, the best way at this stage is to use AI as a human driver's assistance system, thereby reducing the risks encountered during car driving. There are also certain concerns about the use of AI in the military field. Whether AI can actually make humanitarian actions on the battlefield requires further investigation.

[Keywords] Artificial Intelligence(AI), Driverless Cars, Three-Level Control, Moral Orientation, Moral Competence

1. Introduction

The term Artificial Intelligence(AI) was raised by John McCarthy of Dartmouth College, USA. He coined the term AI in 1955, and organized the famous Dartmouth conference in summer 1956. This conference started AI as a field[1]. In recent years, AI Technology has become a part of people's lives. Intelligent Vehicles have become a new area of research for vehicle manufacturers. Shortly, perhaps Intelligent Vehicles can provide humans with safer, simpler, and more convenient ways to travel. If Intelligent Vehicles can replace conventional vehicles, then Intelligent Vehicles will have the same capabilities as humans. It means that Intelligent Vehicles would have the ability to surpass humans. Besides, AI will provide more efficient and convenient services for human beings while also preventing human drivers from making illegal operations when facing danger. The basis of a report of the World Health Organization(WHO), a car accident, is the second factor of human death. Most of these car accidents are not caused by the

malfunction of certain car parts, but by human factors that could have eliminated. More precisely, it causes the '4D' factor-Drunkenness, Drug, Drowsiness, and Distraction[2]. However, is the level of intelligent technology at this stage already the same as or better than humans? Can smart cars make ethical operations when cars are in danger? This paper explains the moral development of AI through three aspects: moral orientation, moral competence, and moral decision-making.

This paper explores the moral development of smart cars through three aspects: moral orientation, moral competence, and moral behavior. The specific framework is as follows: The first part is an introduction; it introduces the background, target, questions, and structure of the paper. The second part introduces the development and current status of AI Technology. The third part is to compare what based on the three-layer control system of AI vehicles and the two-sided model of moral behavior. It analyzes the similarities and differences between AI and human moral competence. H. Lipson and M. Kurman in 'Driverless' proposed that smart cars will have three layers of control, including the upper-level control system(Mentality) and the middle-level control system(Perception), and underlying control systems(Reflection) by integrating software operating systems and hardware response systems[2]. However, in human moral behavior, moral tendency and moral competence are not separate components. They cannot be separated from behavior or separated from each other. Instead, they are different aspects of behavior[3].

2. The past and present of Artificial Intelligence

2.1. The definition of AI

Before the review the history, let us understand the definition of AI. It is difficult to define a well-known concept. In an Oxford advanced learner's English-Chinese dictionary, AI interpret as an area of study concerned with making computers copy intelligent human behavior[4]. It is not difficult to find that AI is a machine built on a carrier that can replicate human behavior. The most common carrier is the robot. The word "robot" originated in the 1920s and originally meant a specific type of slave; people usually think that the characteristics of robots can replace humans to complete dull, dirty, and dangerous tasks[5]. In the Oxford advanced learner's English-Chinese dictionary, the definition of a robot is that a machine that can perform a complicated series of tasks automatically[4]. Robot scientists are also working hard to give a precise definition to the field of robotics. Some people in autonomous robots, have defined robots based on characteristics: "Can perceive, have the artificial cognitive ability, can make physical behavior"[6]. From a functional perspective, robots with different functions have different definitions. Cynthia Lynn Breazeal of the Massachusetts Institute of Technology invented a robot that interacts with people through actions, facial expressions, and sounds[7]. She believes that social robots have the same intelligence as human socialization, it can generally interact with humans, and thus become friends with humans. In fact, not only are their differences in the characteristics of robots, but the definition of robots in different fields is also.

In summary, robots are machines that can sense, think, and act. Robotics is the sum of research, design, and manufacture of these devices: its front end is computer science, and it absorbs various disciplines in the fields of materials science, psychology, statistics, mathematics, physics, and engineering. The research object of AI is to reconstruct human cognition on silicon semiconductors, including both general cognition and limited and optimized cognition in a limited field[5].

2.2. The history of AI

Unlike ordinary robots, AI has independent thinking and behavioral abilities. In other words, AI represents an attempt to use a non-human element or device to reconstruct some degree of human reasoning ability[5]. Generally speaking, AI is also called 'machine intelligence'. However, the development of AI in the 1960s to the 1980s encountered difficulties. It includes the massive size of the early computers, the backward network technology, expensive visual system, the low resolution, and the large amount of financial support required for research. Until 1997, AI regained the attention of the government and investors. Around this time, IBM's dark blue defeated the chess champion and was born the world's largest search engine-Google. In 2014, Google's latest version of the driverless car prototype was released in Detroit. It has neither a steering wheel nor brakes. It conveys a clear message of what the car of the future is born for full automation without the need for human drivers, or it not expected to be driven by humans. Caused a lot of heated discussions, Google makes a driverless car in a new way, which is very different from the previous transformation of existing models. The AI software is the driver of this car. It inherits the previous two generations of 1.3 million miles of driving experience, which is equivalent to driving 15,000 miles per year for 90 years[2].

2.3. The three-level control of intelligence cars

Since the 1980s, the development of AI vehicles has mainly studied from three levels: the upper control system(advanced mental activity), the central control system(cognition, analysis, judgment), and the lower control system(conditional reflection activity). This section explains the role of the three-layer control system in AI vehicles.

First, the core job of the underlying control system is to stabilize the system at the optimal setting value. It came as a human car driver who is learning a car before learning the rules. That is the traditional 'driving skills'. In an AI car, the coverage of the underlying control system is somewhat extensive. A hardware management system adds to follow the designed route for precise control, acceleration, and smooth control during braking[2]. The use of the feedback system enables driverless cars to make effective 'behaviors' in the formal process. For example, when a driverless car carrying passengers encounters an unexpected situation while driving, the passenger may be injured if the brakes are applied too quickly. If the underlying control system works well, passengers will not notice changes in the car's operating status. Perhaps the only thing that can be felt is that this driverless car 'manages itself' very smoothly.

Second, the upper-level control system of AI cars is more like human mental activity, which is the traditional 'brain activity'. The basis of the upper control system is path planning and navigation, and both need to be implemented through the application of search algorithms[2]. The search algorithm is suitable for symbolic AI. If the search algorithm is to solve the problems encountered by the upper control system quickly, it is necessary to provide sufficient computing power for this calculation, but this will cause the search algorithm to require many system resources. The A* search algorithm(A star search algorithm) is the most common kind of search algorithm. It is suitable for most software, including GPS navigation, chess, and card games, and factory task scheduling. AI vehicles can quickly and effectively solve navigation problems through the A* search algorithm because it uses algebraic functions. The algebraic function cleverly removes a large number of repetitive calculations in the previous search algorithm and uses the mathematical method to achieve the shortest route search. For example, in urban roads, there is more than one road from the start point to the endpoint, and the AI car uses the A* algorithm to calculate the fastest and optimistic cost route.

Third, both the upper control system and the lower control system are very mature and widely used. Nevertheless, why can't AI cars still be sold in the market? Perhaps it is because of Moravik's paradox, meaning that the seemingly simple process of movement and perception is challenging to automate. Neither the upper control system nor the lower control system can accurately identify everything on the road, just like a blind driver driving. Therefore, a control

system is needed between the upper control and the bottom control to coordinate and judge the central control system. The middle-level control system is an AI vehicle that monitors the vehicle's perception and response through a series of software. The middle-level control software enables the operating system of the car to recognize the sensor data, perceive the physical data of the surrounding environment of the vehicle, and make the best response plan according to the surrounding things or events. The time it takes for a robot to process an event is called the 'event world.' The different levels of affairs are different, from less than one second of low-level control operations to several hours of upper-level control operations. The mid-level control activity of an uncrewed car may involve the recognition of the shape and state of the object, that is, when a person is passing by on the sidewalk at the time, he will let him go first, and it finds that wind blowing When moving the plastic bag, it will not turn to avoid[2]. In fact, until now, AI has failed to provide extremely reliable manual recognition for cars.

In summary, the AI car has not reached the real intelligence. In other words, at this stage, AI cannot think for itself, but the combination of hardware and software allows AI vehicles to distinguish the external environment and events through big data analysis. Therefore, AI vehicles require engineers to input moral tendencies and judgments in advance so that they can make ethical behaviors when encountering emergencies.

3. Moral Orientation, Moral Competence, and Moral Behavior

AI judges the surrounding environment and events through the combination of software and hardware. The difference between humans and AI is that single or multiple aspects cause behavior. We cannot say a specific cause must cause that individual behavior. Therefore, when a car driver encounters an emergency, what kind of operation is ethical? This section will explain how humans behave ethically in the face of emergencies. As mentioned above, the driverless car mainly uses the three-layer control system to make the car drive frequently. When faced with emergencies, the three-level control system controls different parts of the car to respond. However, in human moral behavior, moral tendency and moral competence are not separated, but different aspects of behavior, and the three influence each other.

3.1. Moral orientation

Before making a moral behavior, people need to have enough strength or support to make them want to do it what is a moral tendency. In Piaget's children's moral development stage, the moral tendency considered as the emotional aspect of behavior. Kohlberg expressed moral tendencies as 'six types and three levels.' The first level is the antecedent level, including the first stage(punishment and obedience orientation) and the second stage(naive hedonism). The second level is the conformity level, including the third stage('good boy' orientation) and the fourth stage(Maintain the moral orientation of law and order). The third level is the post-inheritance level, including the fifth stage(social contract orientation) and the sixth stage(conscience individual principle orientation). The stages of moral development that Kohlberg summarizes a specific point of view, or a way of thinking about moral dilemmas, but not a specific form of moral decision-making. Decision-making itself does not provide much information because at each moral stage, when people want to solve a moral dilemma, and they must choose and take one of the actions to implement. Therefore, a moral tendency has become a prerequisite for moral judgment and moral behavior[8][9].

3.2. Moral competence

In early human society, people did not need special skills to become moral people. To be precise, people only need to follow the regulations required by others, and it is enough to do what the regulations allow. As Kant advocates the 'absolute order,' he believes that morality is

no longer a commandment or taboo, but a generally observed moral principle. In other words, as long as people follow moral principles, they can be considered as moral people. However, when the regulations do not match the wishes of people, people sometimes choose to challenge the rules.

In most cases, this challenge will be excluded or even punished by the community within the rules. Therefore, morality is not only enough to follow general rules but more aspects of improving. Max Lives found that young criminals lacked not moral principles but the ability to apply them[3]. Lind believes that moral competence is an attribute of moral behavior[3], so it cannot merely reduce to only emotional aspects[3]. Moral competence is good judgment ability, which explains how people should judge and make decisions when facing moral dilemmas.

3.3. Moral behavior

People's moral behavior is not merely following the rules or reducing to emotional behavior. Most people's external behaviors are not the result of internal reflection, but the result of more complicated cognitive processes, even if people have negative emotions in the face of moral dilemmas. Second, the behavior may be something completely different from the personal view. People should not attribute the cause of unethical behavior to the product of moral tendencies or moral competence. The moral inclination is the basis of moral behavior. Without moral inclination, there will be no corresponding moral behavior. However, the difference between moral orientation and moral behavior is not related. Almost all people have the same moral tendency except for minor changes. The influence of moral competence on moral behavior is moral behavior. People with higher moral competence are more likely to make moral behaviors in social behaviors, including helping others, making moral decisions, observing rules, and obeying authority.

4. Complexity of Human Beings' Cognition and Emotion

As we saw in the previous chapter, when human beings face moral dilemmas, they need to go through a series of complex cognitive processes to make moral behaviors, including the moral tendency and the ability to judge the problem when facing the problem. However, the self-driving cars at this stage have not achieved real AI. In other words, the current driverless cars cannot think for themselves. Then, when encountering moral dilemmas, whether the behavior of AI cars is ethical depends on how engineers set up AI cars. Here will quote a classic moral dilemma-the tram problem.

The tram problem proposes by the British philosopher Philippa Foot in 1967. It is a moral problem: there is a tram running along the track, and there are five working workers directly in front of the tram. The train will hit innocent people on another railroad track if they change the turnout. No matter how the tram driver operates, the team cannot stop without hitting people, and no matter which tracks the tram hits, they cannot survive. After a simple calculation, most readers conclude that the value of five people is higher than the value of one person, then the team should choose to kill one person, to ensure that five people can survive. However, if people think about this result carefully, it is not difficult to find a fundamental problem. In order to survive the five people, the person who changed the turnout may become the murderer of the murder of an innocent person. As a result of this, the nature of the event itself has changed.

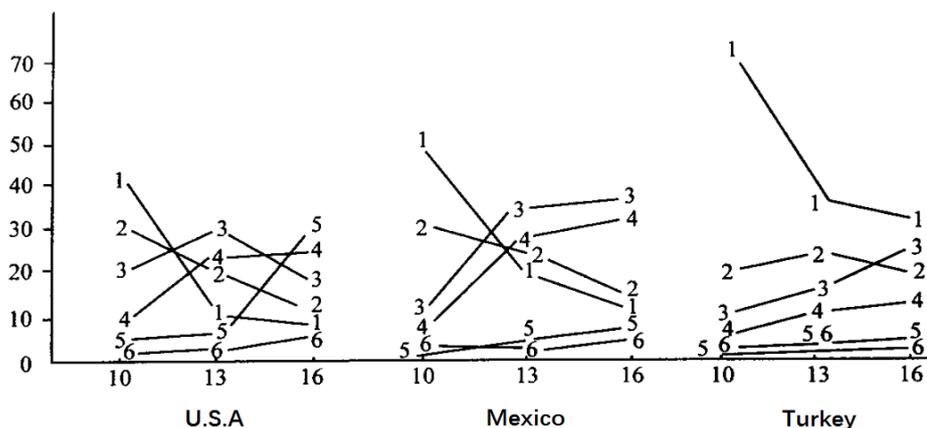
After the emergence of self-driving cars, many derivative problems related to the tram problem appeared. In most driverless car problems, a common condition is that a driverless car will pass through an intersection, but the car's braking system has failed, and the car can no longer stop. There are a certain number of passengers on the crewless cars, and a certain number of pedestrians are passing through the intersections. They may be elderly, children, young people,

or business executives. The same as the tram problem is that no matter what the operation, one of the options will cause some people to die. Some scholars think that the tram problem is too extreme, and they think it is a small probability event. Indeed, in the vast majority of traffic accidents, the driver's choice is not A or B; they often have multiple choices.

Nevertheless, the problem that people cannot ignore is that in these cases, human drivers need to make judgments in a short time. Similarly, if a human driver replaces AI drivers, they still need to make judgments within the same time. Therefore, it is still a high probability event that the AI car encounters the tram problem.

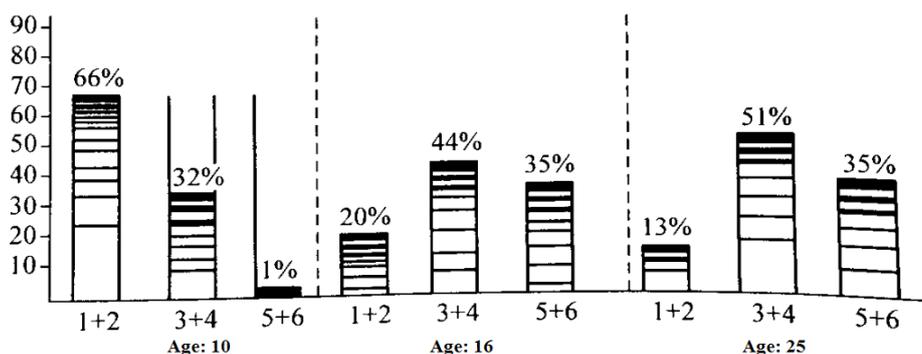
As mentioned earlier, the current stage of AI cars is to make the most reasonable behavior through big data analysis, when they encounter moral dilemmas. Therefore, AI vehicles need to introduce Kohlberg's moral tendencies into the control system. The moral inclination is the root of moral behavior. If smart cars only comply with traffic laws and regulations, then they are not necessarily ethical. Kohlberg used the moral dilemma story to measure the development of children's moral tendencies. From the results(as shown in <Figure 1>), the general moral development is from a low tendency to high tendency.

Figure 1. Moral orientation at different ages in U.S.A, Mexico, Turkey[8][9].



This regulation is aimed at the systemization of the system of research ethics by regulating. However, from the comparison of countries, it is found that the type of moral tendency of children in developed countries at the age of 16 is higher than that of developing countries[8][9]. As can be seen from <Figure 2>, whether it is a 16-year-old teenager or a 25-year-old adult, their main moral tendencies are concentrated in the second level, which is the customary stage that Kohlberg calls[8][9].

Figure 2. The percent of different ages who make moral judgments in U.S.A[8][9].



What needs to point out here is that the research, as mentioned above, results proved by the results of the 30-year follow-up study conducted by Kohlberg and colleagues in the United States and the cross-cultural research conducted around the world. According to Kohlberg's argument, this measurement method can only measure the first to fifth stages, while the sixth stage has not been empirically verified, and can only prove theoretically. Because there are too few people who reach the sixth stage, and most of them do not achieve a consistent level of moral reasoning[8][9]. Therefore, in the upper-level control of AI vehicles, the third-level moral tendency can be directly added, which is the post-custom level. The post-custom level means that people can judge right and wrong by the principle of broad justice. These principles may conflict with written laws or the orders of authoritative figures, but morally correct and legal ones are not always the same.

If everything according to a higher moral inclination, how is that different from acting according to fixed rules or authority? Here we will discuss the application of moral competence in driverless cars. In the tram problem, people on both tracks may lose their lives because of the tram's choice. When a human-driven car is driving on a highway, it encounters cats, dogs, or raised obstacles that suddenly appear on the road. Most drivers will take non-avoidance measures because this will ensure that the people in the car can survive.

Simply put, they will judge based on value. If it replaces by a driverless car, then the first thing to be solved is the sensing system, which is the mid-level control system mentioned above. Here, we will discuss the sensors of driverless cars have the same recognition ability as humans or stronger than humans. Because the problem of sensors is not a moral issue, it is a question of skills. Then, when a driverless car encounters a cat that rushes out, it should have the same as most human drivers, because such behavior is moral.

In summary, AI does not have the ability of self-thinking like human drivers, and then it needs to choose the best solution through big data analysis when they encounter unexpected situations. Moral behavior is reflective behavior based on different moral values. Specifically, it is the combination of Kohlberg's moral tendency and AI data analysis, so that AI can quickly and accurately analyze the best solution when the car encounters an emergency. Based on Lind and Kohlberg's researches on human moral tendencies and moral capabilities, it can conclude that 'low tendencies are for low value, and high tendencies are for high value. 'For low-value things or events, driverless cars should follow a lower moral tendency, that is, the first-level moral tendency, that is, the moral tendency to generate without penalty or reward.

On the other hand, for high-value things or events, driverless cars should follow a higher moral orientation, that is, the third-level moral orientation, that is, the principle of social contract orientation and conscience as the moral orientation. However, for driverless cars, there is still one issue to be discussed-the the attribution of moral responsibility. Regardless of the tendency of driverless cars in their judgments, the final behavior may cause some harm, including people and cars. So, who should bear the moral responsibility of driverless cars? At present, AI cannot think for itself; its character is a robot. Although self-driving cars have autonomous behavioral capabilities, their judgments are not complete by their thinking, but they act through induction, analysis, induction, judgment, and reflection. Morality is the collective will of humanity, so the moral responsibility of smart cars should be borne by people. If the accident causes by passengers or people in the external environment, then moral responsibility should be borne by them. If the consequences caused by driverless cars, they should come by the manufacturer or operator.

5. AI and Its Some Implications to Military Affairs

With the development of AI technology, AI technology gradually uses in the military field. However, due to the characteristics of AI technology and the current level, intelligent technology can not completely replace humans. In the military field, AI can work in a variety of different environments. They can learn the knowledge and skills that humans need to learn for a long time in a short time. In military operations, AI can help human effectively complete different tasks, thereby reducing human mortality due to war. However, some people still have some concerns about the use of AI in the military field. The use of AI is still in its infancy. If artists can create different productions, so that AI intelligent technology that can make artworks, they can only be called imitators. It means that AI does not possess creative thinking. They can only rely on the analysis results of big data to make judgments and take corresponding actions. On the battlefield, AI's recognition and analysis system can help them distinguish between enemy and civilian. However, when they encounter enemy wounded on the battlefield, they can make accurate judgments. According to the provisions of the Geneva Convention: the principle of recognizing the humane treatment of the wounded and sick on both sides of the enemy should be distinguished in any case, it prohibits to impose any harm or atrocities on the lives and personal lives of the wounded and sick, especially the prohibition of murder, torture, and biological Learning experiments or deliberately not giving medical assistance and care[10]. Therefore, the application of AI in the military field needs further research.

6. Conclusion

More than half a century has passed since AI first propose to the present, but the development of AI is still in its infancy. Some automakers have successively launched their AI cars, and not only technical issues but also ethical issues have followed. When faced with intricate traffic roads, AI vehicles have not made real intelligence. Although AI vehicles at this stage have autonomous behavioral capabilities, they do not possess the same thinking ability as humans. According to Kohlberg's research results, the moral tendency in an ideal state should be 'low tendency towards low value, and a high tendency towards high value. Therefore, we should combine Kohlberg's moral tendency stage with unpiloted and make a moral tendency when facing low-value things and vice versa. On the other hand, in terms of moral responsibility, AI cars cannot be equated with humans. Therefore, its moral responsibility should be borne by the operator or manufacturer according to the actual situation.

As far as the current situation is concerned, the best mode of operation is the combination of a human driver and a driverless car. Most of the operations done by AI and human drivers play the role of supervising driverless cars. For example, when a driverless car cannot recognize the sudden situation ahead, a human driver will intervene to avoid the particular road ahead. Although some scholars believe that human drivers do not enter a highly concentrated driving state in an instant, it is much stronger than making wrong judgments because driverless cars cannot recognize the road ahead in some states. It is like learning to drive a car at a driving school. The coach will stop the mistakes made by the students at any time. At present, AI cars are still unable to achieve true self-driving. However, it is still the research and development direction of car manufacturers.

At the specific domains, the level of AI is quite high. In the fields of weapons systems and military materials, AI technology can be implemented according to the intentions of those who plan. However, at the world level, AI is still waiting for someone's hegemony. As soon as possible, international organizations and countries should share common understanding the use of military weapons beyond the national level and prepare quite appropriate regulations.

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8. Contribution

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Co-Author	CHJ	<ul style="list-style-type: none"> -Participants in Drafting and Revising Papers <input checked="" type="checkbox"/> -Someone who can explain all aspects of the paper <input checked="" type="checkbox"/>

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The Effect of Martial Arts Training of NONCOMMISSIONED OFFICER Cadets on Leadership Skills and Innovative Behavior

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Abstract

Purpose; This study is to find out the effect of martial arts training of noncommissioned officer cadets on leadership skills and innovative behavior and to help the operation of educational programs of military-related educational institutions, including noncommissioned officer academies. To this end, a survey was conducted on noncommissioned officer cadets in Gyeongsang-do, Chungcheong-do, and Gyeonggi-do, as of 2020, where 300 students were briefed on the purpose of the survey and agreed to participate using the self-assessment method. Among the collected data, 286 questionnaires were valid samples, excluding those whose responses to the survey were unfaithful or some parts of the survey were omitted. For the data collected, frequency analysis, factor analysis, reliability analysis, correlation analysis, and multiple regression analysis were performed, using SPSS 25.0 for Windows. The results are as follows:

First, martial arts training affects leadership skills.

Second, martial arts training affects innovative behavior.

Third, leadership skills affect innovative behavior.

The study shows that martial arts training affects leadership skills and innovative behavior. The military organization, a unified group that performs special missions under special circumstances and conditions for special purposes, pursues the purpose and interests of the entire group. Due to the specificity as a group that requires unified attitudes and actions of its members, the military organization is likely to accumulate negativity and conflict as its functions are uniformed while pursuing efficiency, and that is why leadership is required. Noncommissioned officers and other soldiers are directed at what activities they choose for military organizations or the country, how much effort they will make, how long they will continue the action in the face of difficulties, and what is important in the efficient operation of their organizations is leadership. Martial arts such as taekwondo and judo have a significant influence on the improvement of leadership. Therefore, martial arts and related quality education are needed for noncommissioned officer cadets who are responsible for the future security and safety of the country to perform their duties faithfully before they are commissioned.

[Keywords] *Noncommissioned Officer, Martial Arts, Martial Arts Training, Leadership Skills, Innovative Behavior*

1. Introduction

1.1. The needs and purpose of the study

Noncommissioned officers in the Korean military are the middle class between the lower class of the enlisted and the higher class of commissioned officers, playing an organic role in facilitating mutual solidarity and communication, based on which they play a pivotal role by contributing to keeping the best fighting strength. In addition, the number of applicants is on

the rise due to their status as government workers and stable living conditions as professional soldiers, and this trend of the times is affecting the quantitative increase in college departments for noncommissioned officer cadets. Among the efforts to strengthen the capabilities of noncommissioned officers who play a pivotal role in the military and train excellent noncommissioned officers is martial arts training. Martial arts such as taekwondo and judo are becoming more important because they affect not only the strength, technical, and physical aspects necessary for self-protection, but also the spiritual aspects such as the realization of justice, respect for life, responsibility and social aspects such as leadership, cooperation, patience, and sacrifice.

This study is to find out the effect of martial arts training of noncommissioned officer cadets on leadership skills and innovative behavior and to help the operation of educational programs of military-related educational institutions, including noncommissioned officer academies.

2. Methodology

2.1. Subjects and sampling technique

A survey was conducted on noncommissioned officer cadets in Gyeongsang-do, Chungcheong-do, and Gyeonggi-do, as of 2020, where 300 students were briefed on the purpose of the survey and agreed to participate using the self-assessment method. Among the collected data, 286 questionnaires were valid samples, excluding those whose responses to the survey were unfaithful or some parts of the survey were omitted.

2.2. Measurement method

The survey questionnaire for martial arts training is based on the questionnaire used in the study of Park(2011) and Lee(2011)[1][2], the survey questionnaire for leadership skills is based on the questionnaire used in the study of Morris(1996) and Baek(2007)[3][4], and the survey questionnaire for innovative behavior is based on the questionnaire used in the study of Janssen(2000) and Lee(2016)[5][6]. Based on the results of the validity and reliability verification of the questionnaire in the preceding studies, the definition and indicators of the factors of martial arts training, leadership skills, and innovative behavior were found to be appropriate. In this study, they were modified and used: martial arts training was the independent variable, leadership skills were the parameter, and innovative behavior was the dependent variable.

2.3. Analysis of data

In this study, frequency analysis was conducted to identify the general characteristics of the study subjects using SPSS 25.0 for Windows, and factor analysis was conducted to classify the factors of martial arts training, leadership skills, and innovative behavior. Cronbach's α coefficient was calculated to verify the reliability of the questionnaire, and correlation analyses were conducted to identify the relation among each variable. In addition, a multi-regression analysis was conducted to find out the effect of martial arts training on leadership skills and innovative behavior.

3. Results

3.1. Analysis of the validity and reliability of the questionnaire

To determine the validity and reliability of the questionnaire in this study, factor analysis was calculated and Cronbach's α coefficient was calculated, which are shown as follows.

First, for martial arts training, the eigenvalue and Cronbach's α coefficient of the emotional factor were 6.356($\alpha=.864$), social factor 5.642($\alpha=.888$), physical factor 5.103($\alpha=.889$), and life attitude 3.875($\alpha=.764$), respectively, with the ratio describing the overall variable at 64.627.

Second, for leadership skills, the eigenvalue and Cronbach's α coefficient of the decision making factor were 5.361($\alpha=.863$), self-understanding factor 4.852($\alpha=.880$), and leadership factor 3.874($\alpha=.898$), respectively, with the ratio describing the overall variable at 62.246.

Third, for innovative behavior, the eigenvalue and Cronbach's α coefficient of the innovative behavior factor were 5.367($\alpha=.823$), respectively, with the ratio describing the overall variable at 57.364.

3.2. Correlation analysis

In this study, a correlation analysis was conducted to determine the causality or correlation among the independent and dependent variables of the variables shown in the factor analysis, and all factors were found to have a positive relation, indicating that regression analysis is possible to determine the effect of the variables among them.

3.3. The effect of martial arts training on leadership skill

Table 1. The effect of martial arts training on decision making.

Independent variable \ Dependent variable	Decision making			
	<i>b</i>	<i>Std.E</i>	β	<i>t</i>
Emotional	.368	.088	.315	4.167***
Social	.197	.067	.158	2.869**
Physical	.165	.076	.143	2.314**
Life attitude	.242	.083	.291	2.865**
<i>R</i> ²	.386			
<i>F</i>	49.371***			

Note: *** $p < .001$ ** $p < .01$

<Table 1> shows that emotional, social, physical, and life attitude factors of the martial arts training significantly affect the decision making factor, with the coefficient of determination of $R^2=.386$, which indicates 36.8% of explanation power.

Table 2. The effect of martial arts training on self-understanding.

Independent variable \ Dependent variable	Self-understanding			
	<i>b</i>	<i>Std.E</i>	β	<i>t</i>
Emotional	.189	.056	.198	3.254**
Social	.319	.063	.321	5.627***

Physical	.156	.047	.148	2.681**
Life attitude	.139	.054	.132	2.357**
R^2	.412			
F	57.453***			

Note: *** $p < .001$ ** $p < .01$

<Table 2> shows that emotional, social, physical, and life attitude factors of the martial arts training significantly affect the self-understanding factor, with the coefficient of determination of $R^2 = .412$, which indicates 41.2% of explanation power.

Table 3. The effect of martial arts training on leadership.

Dependent variable \ Independent variable	Leadership			
	b	$Std.E$	β	t
Emotional	.136	.087	.178	1.349**
Social	.358	.092	.297	3.648***
Physical	.194	.073	.165	2.374*
Life attitude	.201	.081	.173	2.311**
R^2	.388			
F	56.367***			

Note: *** $p < .001$ ** $p < .01$ * $p < .05$.

<Table 3> shows that emotional, social, physical, and life attitude factors of the martial arts training significantly affect the leadership factor, with the coefficient of determination of $R^2 = .388$, which indicates 38.8% of explanation power.

3.4. The effect of martial arts training on innovative behavior

Table 4. The effect of martial arts training on innovative behavior.

Dependent variable \ Independent variable	Innovative behavior			
	b	$Std.E$	β	t
Emotional	.061	.055	.169	1.358*
Social	.345	.063	.368	6.651***
Physical	.098	.049	.169	2.167**
Life attitude	.212	.050	.213	4.035***
R^2	.591			

F

87.354***

Note: ***p<.001 **p<.01 *p<.05.

<Table 4> shows that emotional, social, physical, and life attitude factors of the martial arts training significantly affect the innovative behavior, with the coefficient of determination of $R^2=.591$, which indicates 59.1% of explanation power.

3.5. The effect of leadership skills on innovative behavior

Table 5. The effect of leadership skills on innovative behavior.

Dependent variable \ Independent variable	Innovative behavior			
	<i>b</i>	<i>Std.E</i>	β	<i>t</i>
Decision making	.143	.048	.217	2.276***
Self-understanding	.357	.065	.516	7.236***
Leadership	.178	.036	.245	3.735***
R^2	.489			
<i>F</i>	96.117***			

Note: ***p<.001.

<Table 5> shows that decision making, self- understanding, and leadership factors of leadership skills significantly affect the innovative behavior, with the coefficient of determination of $R^2=.489$, which indicates 48.9% of explanation power.

4. Discussion

This research result can be interpreted that martial arts training has a lot of influence on the leadership and innovation behavior of participants, and the martial arts trainee judges the situation in the movement with the opponent, so interpersonality is an important feature. These characteristics are thought to serve as good opportunities to cultivate abilities such as leadership skills and innovative behaviors, which are social behaviors, and in particular, compassion, friendship, and sociality, which are considerate of others. It is possible to cultivate morality through martial arts training[7], which also affects self-management, social adaptation, sense of community, interpersonal relationships, social development, social attitudes, and social behavior[8][9][10]. The results of the preceding studies show that this study supports that martial arts training affects leadership skills and innovative behavior. Based on the results of these prior studies and the scholars' arguments, martial arts are not just exercise but also builds mental training in addition to strengthening muscles, improving cardiopulmonary function, and acquiring skills through training as a discipline. Completion of humanity through martial arts training fosters qualities such as leadership, in other words, a person who is humble, willing to yield, and able to lead an organization well by respecting the other party, and it is the direction that martial arts education, including martial arts training, should pursue[11].

Overall, the martial arts training is an important resource of the nation, and it can contribute to improving the quality of life and exercising the best combat power to satisfy the

needs of the people as well as protecting the national security and national territory amid rising democratic and social demands for democratic and friendly military organizations. The martial arts training of noncommissioned officers who play a pivotal role is very important, and the emotional, physical, and social development through martial arts training can have a great impact on national development, so an efficient method of teaching that combines personality education is required.

5. Conclusion

This study is to find out the effect of martial arts training of noncommissioned officer cadets on leadership skills and innovative behavior and to help the operation of educational programs of military-related educational institutions, including noncommissioned officer academies. To this end, a survey was conducted on noncommissioned officer cadets in Gyeongsang-do, Chungcheong-do, and Gyeonggi-do, as of 2020, where 300 students were briefed on the purpose of the survey and agreed to participate using the self-assessment method. Among the collected data, 286 questionnaires were valid samples, excluding those whose responses to the survey were unfaithful or some parts of the survey were omitted. For the data collected, frequency analysis, factor analysis, reliability analysis, correlation analysis, and multiple regression analysis were performed, using SPSS 25.0 for Windows. The results are as follows:

First, martial arts training affects leadership skills.

Second, martial arts training affects innovative behavior.

Third, leadership skills affect innovative behavior.

The study shows that martial arts training affects leadership skills and innovative behavior. The military organization, a unified group that performs special missions under special circumstances and conditions for special purposes, pursues the purpose and interests of the entire group. Due to the specificity as a group that requires unified attitudes and actions of its members, the military organization is likely to accumulate negativity and conflict as its functions are uniformed while pursuing efficiency, and that is why leadership is required. Noncommissioned officers and other soldiers are directed at what activities they choose for military organizations or the country, how much effort they will make, how long they will continue the action in the face of difficulties, and what is important in the efficient operation of their organizations is leadership. Martial arts such as taekwondo and judo have a significant influence on the improvement of leadership. Therefore, martial arts and related quality education are needed for noncommissioned officer cadets who are responsible for the future security and safety of the country to perform their duties faithfully before they are commissioned.

6. References

6.1. Journal articles

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6.2. Thesis degree

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7. Contribution

7.1. Authors contribution

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Corresponding Author*	KBC	-Significant contributions to concepts, designs, practices, analysis and interpretation of data <input checked="" type="checkbox"/> -Participants in Drafting and Revising Papers <input checked="" type="checkbox"/> -Someone who can explain all aspects of the paper <input checked="" type="checkbox"/>

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