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A Disaster Situation Management Study using MORT-TAC

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Abstract

Purpose: The purpose of this study is to present a plan to manage disaster situations using MORT-TAC, a factor to consider the situation evaluation of disaster sites. Despite the importance of disaster response due to the sharing of initial disaster information in disaster response, small disasters often develop into national disasters due to the lack of important information in the event of a disaster.

Method: In order to conduct research using MORT-TAC, a factor in evaluating disaster situations, various organizations can use MORT-TAC to distribute initial disaster information through literature research and telephone interviews due to COVID-19. In addition, a study was conducted to incorporate the researcher's military expertise for 30 years of military service into the disaster field.

Results: As a result of the district, MORT-TAC was suggested to distribute initial information on disaster sites between city and county emergency control teams, integrated support headquarters, regional and central emergency control teams, and education and training programs to improve disaster-related officials' expertise.

Conclusion: Disaster response and disaster situation management must be performed by professional officials. Disaster officials of all disaster response emergency organizations must have the expertise to manage disaster situations using MORT-TAC, and to this end, education and training programs must be reflected in the annual education plan. In addition, in-depth research on MORT-TAC should be continuously studied in the future.

[Keywords] Initial Disaster Information, Disaster Situation Management, MORT-TAC, Information Distribution, Professional Education

1. Introduction

In this study, MORT-TAC, a factor considering disaster site situation evaluation, was first mentioned in the doctoral thesis of Dr. Kim Sunggeun, and is the head of Mission, Object, Resources Available, Terrain and Weather, Time Available, and Civil considerations.

It is a study to find answers to how to manage disaster situations using the MORT-TAC. In order to respond to disasters, disaster management agencies, disaster management agencies, various related agencies, and emergency organizations manage disaster situations. Nevertheless, in the event of a national disaster, the efforts are seen as unprofessional, and poor disaster situation management by emergency organizations is often criticized rather than the disaster itself[1]. In consideration of this, MORT-TAC was proposed to identify and take measures essential for disaster response without panic at the disaster site[2].

Whenever a major disaster occurred, the lack of expertise of disaster response officials was exposed, and there were many reflections, but the repeated occurrence can be attributed to the lack of know-how that disaster officials can utilize[3]. In particular, since the disaster site is

complicated and uncertain, making it difficult to grasp the situation of the site, even trained disaster officials have difficulty performing their duties in the early stages[4].

In order to solve this problem, I would like to theoretically find out the characteristics of the disaster site and disaster situation management, and then suggest a plan to manage the disaster situation using MORT-TAC.

2. A Theoretical Study on Disaster Situation Management

2.1. Characteristics of disaster site

In order to properly understand disaster situation management, it is necessary to properly understand the disaster site. Disaster sites are differentiated from general sites, and the site is complicated and uncertain, making it difficult to grasp the situation, and poor disaster sites cause physical fatigue and pain, transcending human limitations[4]. These characteristics of disaster sites apply equally to disaster situation management sites. Uncertainty, fatigue, and friction, which are characteristics of disaster sites, make it difficult for officials in charge of disaster situation management to determine what to do in their positions and places.

Constraints on disaster sites include uncertainty, risk, pain, friction, relativity, liquidity, and psychological constraints include lack of leadership, lack of confidence, lack of teamwork, anxiety and fear, panic, rumors, poor perceptual ability, decline in value standards, and disaster stress[5]. As such, it is not easy to manage the disaster situation due to the specificity of the disaster site.

Poor disaster scenes cause physical fatigue and pain, which transcends human limitations. Meanwhile, field commanders and related officials are spaces for disaster response and have four characteristics: risk, friction, uncertainty, and dynamics[4]. Byun Sangho and Kim Taeyoon(2014) said, "We viewed the characteristics of disasters as cumulative, cognitive, interactive, uncertainty, and complexity, and the greater the uncertainty, the more complex and difficult the problem-solving becomes"[6].

The specificity of disaster response is urgency and speed, technical expertise, decentralized operation, and flexibility, and urgency must be dispatched quickly to minimize damage, and the technical expertise that disaster response organizations must have in preparation for field activities[7]. Despite the general argument that a disaster can predict and manage its signs, the cause, development process, and probationary response process are very complex and difficult, and this complexity can be attributed to the various external environments and limitations of human capabilities[8].

In the end, disaster sites have difficulties due to the situation of disaster itself, and difficulties arising from the limitations of human ability to respond to environmental difficulties, so even simple accidents do not end in accidents and can develop into large national disasters[4]. For this reason, disaster officials must receive professional education, a certain level of field experience is essential, and through such education and field experience, they can understand the special situation of disaster and play their role in it.

2.2. Disaster situation management

Disaster situation management is a task of predicting and warning disasters, receiving, reporting and disseminating disaster situations, and monitoring the development of disaster situations to recover and recover from the most anticipated and disaster response stages[4].

Choi Hojin(2011) said that the core of disaster crisis management is the spread, sharing, and

communication of information smoothly. Currently, Korea has established and operates some systems for national crisis and risk management, but Korea's national disaster management information system has yet to be established[9].

According to the International Federation of Red Cross and Red Crescent Societies (2000), the disaster response decision-making process proceeds with situation evaluation, goal selection and alternative identification, and the starting point is to accurately evaluate the situation[10].

Endsley (1995) emphasized the importance of situational awareness in decision-making, saying that situational awareness means human awareness of surrounding situations, recognizing environmental factors of time and space, understanding their meaning, and predicting the state of the near future[11].

It is necessary to predict the future through situational awareness and situational understanding of changing situations and make timely decisions and implementations[12][13]. Since the subject of disaster situation management is a person, I would like to propose a plan to manage the disaster situation using MORT-TAC so that the expertise of disaster-related officials can be improved.

2.3. Disaster management and MORT-TAC

MORT-TAC, a factor to consider in evaluating the situation of a disaster site, is essential information for field commanders and staff to respond to disasters at the disaster site. If these information are useful for disaster response decision-making, disaster response can be successfully performed, but if information necessary for decision-making is not provided, disaster response will not be possible properly. These MORT-TAC information should be collected by on-site commanders and staff at disaster sites, but integrated support headquarters, regional and central disaster response headquarters, emergency relief headquarters, regional and central accident control headquarters, and related agencies should all cooperate to minimize common goals.

In responding to disasters, individuals or organizations dispatched to the scene need a period of adaptation to become familiar with the scene. Relationships and organizations with trained professional capabilities can become familiar and shorten their response time, while individuals and organizations with untrained unprofessionalism will be embarrassed and unable to respond properly to disasters[12]. In particular, it is true that it is more difficult for various organizations to arrive and apply to disaster sites than for individuals to apply to disaster situations.

In order to overcome these difficulties, MORT-TAC, a factor to consider in evaluating the situation of the disaster site, was studied. MORT-TAC, which is essential information in the disaster site, is essential information for disaster situation management, and when this information is organically distributed between the disaster site and the situation room, it will be able to provide active on-site support through timely decision-making.

3. Disaster Situation Management Plan using MORT-TAC

3.1. Maintenance of disaster sites and disaster situation management organizations

The ICS (Incident Command System), which has been applied in the fire department since the Daegu Subway Fire Disaster (2003), is a management system designed to integrate facilities, equipment, personnel, procedures, and communication operations into a common organizational structure and is widely applied[14][15]. After Ferry Sewol disaster (2014), The basic spirit of organizing an organization in this way is to enable organic cooperation in the disaster site

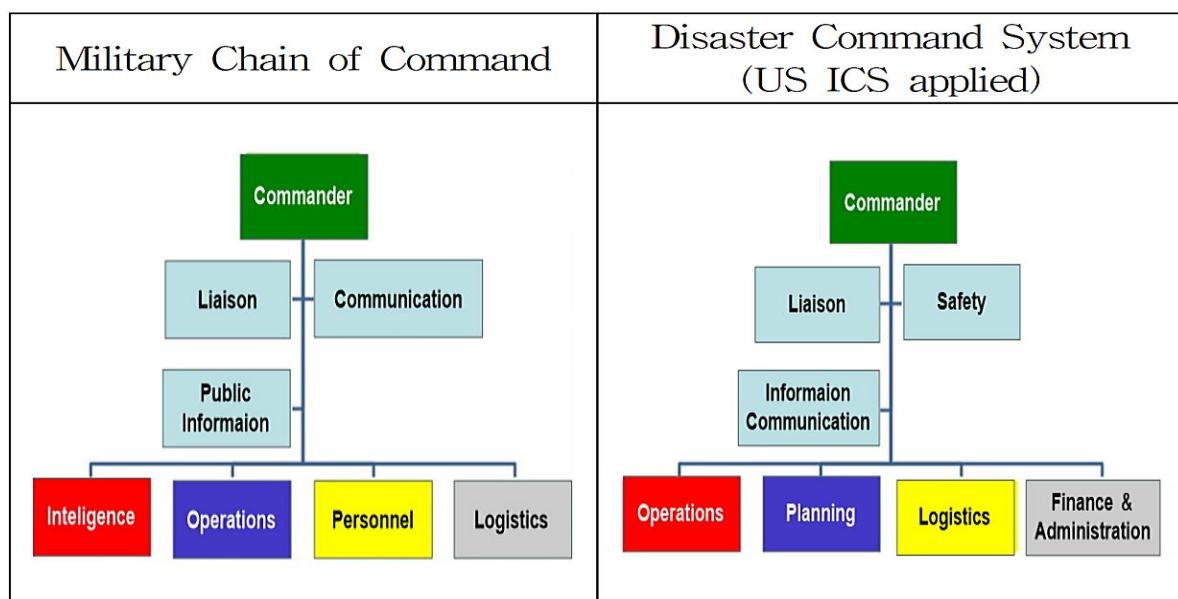
through organizational maintenance. It is no exaggeration to say that the command of the military comes from the organization as shown in the following <Figure 1>. The army basically organizes commanders and staff to perform combat missions. The organization structure of the organization at the battle site and the organization structure of the higher unit supported later are the same [16]. So the military command system is carried out in two tracks. There is a command system between commanders and commanders by the command system of the upper and lower discharges, and there is a line between the commanders and the staff organization [17].

In the battle mission, the commander continues to report command through the command system, and the staff organization organically performs the mission by selecting staff members (operation-operation, personnel-person, county-gun) so that information can be distributed smoothly in a single command system.

After the Ferry Sewol disaster, the organization of all organizations dispatched to the disaster site was standardized as public information, contact, situation management, on-site response, resource support, and public support to ensure organic cooperation at the disaster site.

All organizations dispatched to the disaster site follow the above standard organization so that organizations can easily identify and cooperate with each other from the organization of the organization.

Figure 1. The organization of military units and the disaster command system.



Note: Kim SG (2017).

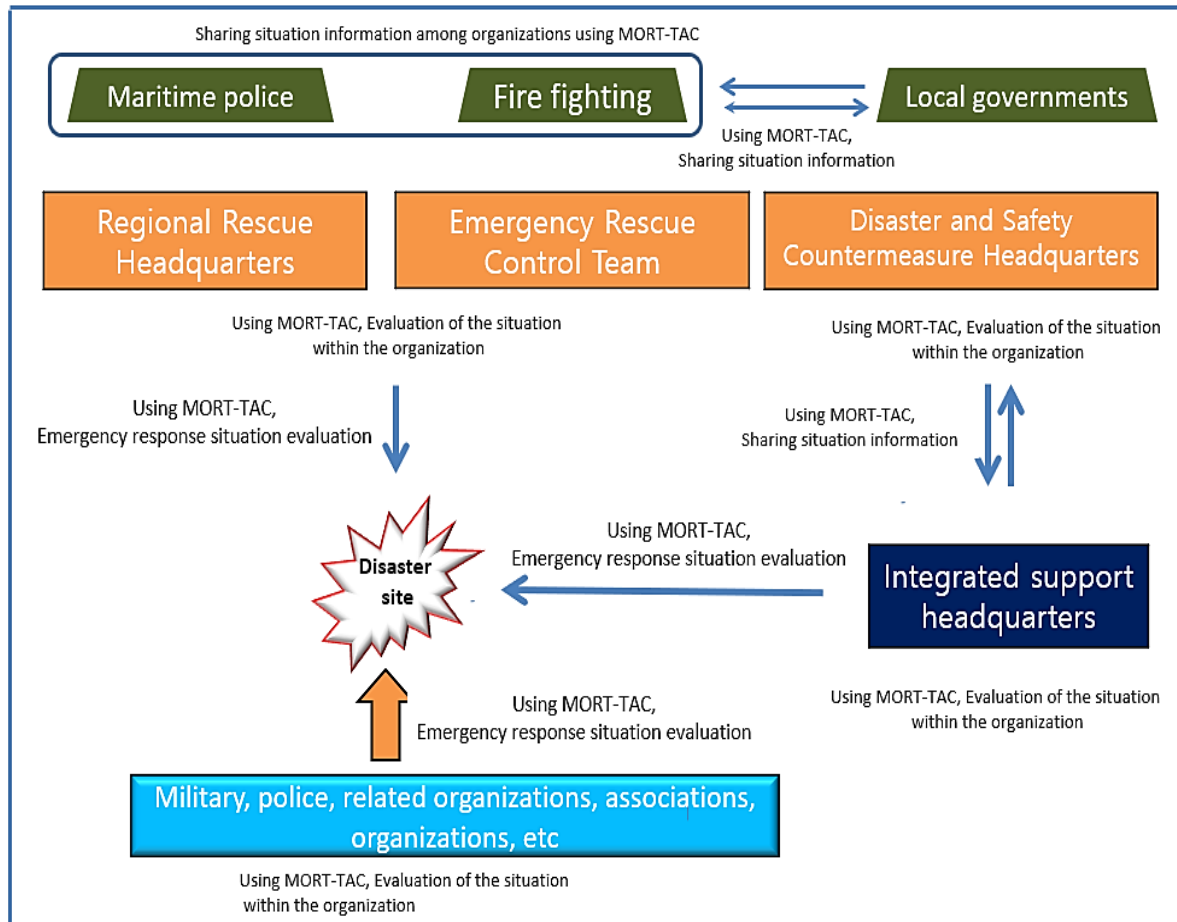
3.2. Basic concept of using MORT-TAC between disaster situation management

The basic concept of using MORT-TAC among disaster situation management is to evaluate the situation at the disaster site using MORT-TAC, a factor to consider the situation evaluation of the disaster site, and distribute the resulting initial disaster information to properly manage the disaster situation.

To this end, information sharing between the emergency rescue control team dispatched to the disaster site and the integrated support headquarters should be smooth, and information distribution between the regional and central emergency control teams and the regional and central disaster safety countermeasures headquarters should be properly responded to.

The use of MORT-TAC between disaster situation management should be made in two main aspects. As shown in the following <Figure 2>, each emergency organization should be assigned a mission to perform situation evaluation using MORT-TAC, the emergency rescue control team and the integrated support headquarters should use MORT-TAC to share disaster situation information.

Figure 2. Conceptual diagram of disaster situation management using MORT-TAC.



3.3. How to utilize MORT-TAC in regional and central emergency rescue control teams

The most responsible institution for saving lives at disaster sites is the firefighting sector, and the law to carry out this is the Emergency Rescue Response Activities and Field Command Rules (abbreviated: Emergency Rescue Site Command Rules, July 13, 2021) [18].

The regional emergency rescue control team is divided into the city and provincial emergency rescue control team and the city and provincial emergency rescue control team, and the city and provincial emergency rescue control team and the central emergency rescue control team will command and control the city and district. <Table 1> presents a plan to manage the situation of disaster sites using MORT-TAC by the representative city, county, and district emergency rescue control team.

The regional emergency rescue control team is the most important organization in the disaster site. This is because commanders and staff organizations are properly established to take responsibility and lead in disaster response.

Since the regional emergency rescue control team is usually an organization that allows firefighting staff to respond customized to disaster response, detailed organizations can identify

each of the MORT-TAC factors, take action, and report to organically carry out disaster response missions.

The city and provincial emergency rescue control team and the central emergency rescue control team are the same in organizing the organization and performing missions, but in the event of a large national disaster, it is important to play a role and perform tasks through information communication.

Table 1. Utilization of MORT-TAC by regional emergency relief control team.

Sortation		The main mission	In charge of MORT-TAC
Regional Control Head		a. Command, Control. b. Implementation of plan.	a. M (Mission) b. Using MORT-TAC
Total Command Division	Command team	a. Decision making strategies b. Support control command	a. M (Mission) b. Using MORT-TAC
	Announcement	a. Promote mass media b. Assembly business	a. C(Media reports) b. C(Public opinion)
	Safety team	a. Safety accident prevention b. Safety measures	a. C(Regional stability) b. R(Prevention of accidents)
Response Planning Division	Analysis team	a. Analyzing information b. Response plan establishment	a. MORT-TAC Manage b. Using MORT-TAC
	Report team	a. Writing a report	a. Using MORT-TAC
	Planning team	a. Response activity plan. b. Allocation of resources	a. Using MORT-TAC b. R(Allocation resources)
Resource Support Division	Service team	a. Support for the operation	a. R(Available resources)
	Resource team	a. Resource Support	a. R(Resource Support)
Site Commanding Division	Rescue team	a. Saving lives and extinguishing fires	a. O(Rescue target) b. R(Resources.)
	Control team	a. Support for evacuation plans b. Command of field resources.	a. O(Evacuation) b. C(Utilizing resources)
	Medical team	a. Medical support b. Distribute casualties	a. O(Injured person) b. O(Transfer/Status)
	Flight team	a. Aircraft control b. Air transport for patients	a. T(Weather) b. O(Air transport)
Urgent. Recovery Division	Relief team	a. Emergency relief b. Helping rescuers	a. Relief resources) b. R(Helping rescuers)
	Facility team	a. Facility restoration b. Facility command and control	a. O(Facility restoration) b. R(Facility resources)
	Pollution team	a. Command and control of pollution control resources	a. O(Contaminated area) b. R(pollution resources)

3.4. Regional and central disaster and safety countermeasure headquarters' plan to utilize MORT-TAC

According to Article 16 (Local Disaster and Safety Countermeasure Headquarters) of the Framework Act on Disaster and Safety Management (December 22, 2020), the provincial governor shall have the municipal disaster and safety headquarters [19].

As shown in Table 2, the Regional Disaster and Safety Countermeasure Headquarters' plan to utilize MORT-TAC by 13 collaboration functions should basically identify real-time information on all factors considering disaster site situation evaluation and report and spread them so that decision makers can use them for decision-making.

According to Article 14 of the Framework Act on Disaster and Safety (Central Disaster and Safety Countermeasure Headquarters, etc.), the Ministry of Public Administration and Security shall establish the Central Disaster and Safety Countermeasure Headquarters [19]. As 13 collaboration functions of the Regional Disaster Countermeasure Headquarters and 13 collaboration functions of the Central Disaster Countermeasure Headquarters are organized in the same way, identifying, reporting, and distributing information related to MORT-TAC can naturally be used when evaluating disaster situations.

Table 2. Utilization of MORT-TAC by regional disaster countermeasure headquarters.

Sortation	The main mission	In charge of MORT-TAC
Director	a. Response, probation, command, and support b. Problem solving and decision making	a. M(Mission) b. Using MORT-TAC
Controller		
General Manager of Situation Management	a. analyzing, predicting the situation. b. Response plan established c. Write and report on Situation d. Securing and executing budgets	a. MORT-TAC total management b. Using MORT-TAC
Emergency life stabilization support	a. Supporting the victims. b. Relief work for victims	a. O(Identifying victims) b. R(Relief work for victims)
Environmental maintenance at the disaster site	a. Trash disposal activities b. Hygiene management continues	a. T(Terrain) b. R(Hygiene management resource support)
Emergency communication support	a. Emergency communication system operation at disaster sites b. Communication-related situation management	a. O(Identifying damage to communication facilities) b. R(Communication damage recovery support)
Emergency recovery of facility damage	a. Identifying the damage and recovering from the emergency b. Support for manpower and equipment for recovery	a. O(Facility damage status) b. R(Facility restoration resources)
Restoration of energy facilities	a. Identifying damage caused by gas and electricity damage b. Energy support	a. O(Identifying energy damage) b. C(Energy recovery, support)
Disaster Management Promotion	a. Promote through mass media b. Press briefing, etc.	a. C(Media reports) b. C(Public opinion)
Disaster management resource support	a. Human resources, equipment, supplies	a. R(Available resource support) b. R(Mobilize available resources)

Traffic measures	a. Traffic control around disaster sites b. Preparation of traffic detour measures, etc.	a. T(Traffic conditions in the surrounding area) b. R(Preparation of a traffic detour)
Medical quarantine support	a. Emergency medical and resource support activities b. Distributed transfer of casualties. Comprehensive status	a. O(Rescue target) b. O(Transfer/Status of casualties)
Volunteer support management	a. Recruitment of volunteers, on-site placement b. Establishment and operation of a volunteer center	a. R(Recruitment of volunteers) b. R(Volunteer management)
Social order Maintenance	a. Measures to alleviate traffic congestion b. Guiding and evacuating residents c. Traffic control and on-site control	a. M(Resolving the traffic jam) b. C(Resident evacuation, guidance) c. C(Safety around disaster site)
Search and rescue, First aid	a. Emergency rescue and emergency medical care b. Rescue and first aid activities at disaster sites	a. O(Activities to identify the requester) b. R(Rescue and emergency resource support)

4. Policy Suggestions: Reflecting the Use of MORT-TAC in Education and Training for Disaster-related Officials

The results obtained in this study can achieve their effects when reflected in education and training programs to improve the expertise of disaster-related officials (fields, situation rooms). Professional education on disaster situation management shall be provided to disaster-related officials dispatched to the disaster site and all related officials in charge of disaster situation management[20]. There are five major needs for policy reflection of MORT-TAC in education and training for disaster-related officials.

First, it is a need from the concept of disaster. According to the definition of a disaster by the U.S. Federal Disaster Management Agency (FEMA), a disaster is "a serious and large event that brings death, plaque, and property damage and cannot be managed by routine procedures or government resources[21][22]. It should be a special measure because it cannot be handled by ordinary procedures or resources[23][24], and it is possible when officials arriving at the disaster site are aware of their role in accordance with the concept of such a disaster in order to play a role in the field. In particular, the fact that the factors considering the situation evaluation of the disaster site are specified in two letters in MORT-TAC is not forgotten[25] to be used at the disaster site.

Second, it is a need from the specificity of the disaster site. Disaster sites are "differentiated from general sites, and the site is complicated and uncertain, making it difficult to grasp the situation, and poor disaster sites cause physical fatigue and pain, transcending human limitations[4]" Since humans cannot normally judge the situation, disaster officials in the field and situation room will be able to respond to disasters in a timely manner by distributing key information on the disaster site through MORT-TAC education.

Third, it is the need from human cognitive ability in disaster sites. When humans are usually calm, they can recognize the situation normally and make appropriate situational judgments. However, in a situation under psychological pressure in an urgent situation, not only is it embarrassing to grasp the situation properly, but it also makes it difficult to judge the situation [26]. Therefore, MORT-TAC education is needed to overcome these difficulties.

Fourth, it is a need from disaster cooperative responses from various organizations. An educated individual may be good at judging the situation at the disaster site. However, various organizations will be dispatched to the disaster site, and if members of each organization fail to systematically respond to disasters, it will be difficult to respond to disasters [27][28]. Synergy may occur between disaster response organizations [29] when disaster officials working at disaster sites or situation rooms perform their duties and field information related to the mission is distributed. Therefore, disaster-related officials need MORT-TAC education even in terms of basic literacy.

Finally, it is necessary from the absence of programs in the current education and training system. Currently, the core educational institutions for education and training in the field of disaster safety are the National Civil Defense Disaster and Safety Education Center and the Central Fire School. The educational programs of these educational institutions do not reflect the educational concept of similar educational programs such as MORT-TAC, which must be considered by officials in disaster sites or situation rooms to perform their duties. In this situation, officials dispatched to the disaster site or those who manage the disaster situation in the situation room will not be able to respond to disasters and manage the situation based on common awareness [30][31]. Therefore, it is necessary to quickly reflect MORT-TAC, a factor to consider in evaluating the situation of the disaster site, in the education and training programs of the National Civil Defense Disaster and Safety Education Center and the Central Fire School.

5. Conclusion

In the above, a plan to manage a disaster situation using MORT-TAC, a factor to consider the situation evaluation of a disaster site, was studied. Early information on disaster sites is important information for disaster response decisions, and the city, county, district emergency control and integrated support headquarters use MORT-TAC to evaluate disaster situations and various information related to disaster situations.

The results of this study can be applied mutatis mutandis to disaster situation management by disaster officials using MORT-TAC. In addition, it can be used in education and training programs to improve the expertise of disaster-related officials in normal times. Since disaster response is not done individually, but various organizations and personnel must perform tasks simultaneously, improving the expertise of disaster-related officials is the most important policy task.

Despite the results of the above research results, there are limitations. Qualitative and quantitative development of research is required through in-depth research on each MORT-TAC, which is a factor to consider in evaluating the situation of the disaster site. It is hoped that the extension of this study will be expanded as more research on the younger generation will be conducted in the future.

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7. Appendix

7.1. Authors contribution

	Initial name	Contribution
Lead Author	SK	<ul style="list-style-type: none"> -Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/> -Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/>
Corresponding Author*	CC	<ul style="list-style-type: none"> -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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Human & Disaster: Analysis of the Actual Use of Northern Bamboo in Folk Remedies

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Abstract

Purpose: Northern bamboo is an evergreen broad-leaved shrub. It reaches 1~2m in height and 3~6mm in diameter, spread throughout Korea. Northern bamboo leaves, also called bamboo leaves, have been used to treat children's convulsion, vomiting blood, and severe thirst in fever. Women with repressed anger illnesses boiled bamboo leaves covered with frost and drank the water. Therefore, this study investigated the folk remedies related to Northern bamboo. The researchers tried to analyze the studied data and examine the possibility of using northern bamboo as a multi-purpose natural health food.

Method: This study investigated and analyzed the folk remedies related to northern bamboo at herbal medicine stores, herbal medicine pharmacies, and medicinal herb decocting shops in Daegu metropolitan city and Yeongcheon, Gyeongsangbuk-do. Researchers also searched and collected valuable materials in the Naver blog. This paper conducted a Frequency analysis on the collected data with several categories, such as the collecting season of bamboo, the usable parts of it, the processing ways of it, the ingestion types of it, and the frequency of its utilization by disease.

Results: In analyzing the use of northern bamboo to folk remedies, cardiovascular disease was the most frequently used for each related disease. The frequency of use for cancer-related diseases, diabetes-related diseases was also high percentage. Bamboos were collected regardless of the season, but most were collected during the spring when new shoots were born. All bamboo parts were usable, but leaves were used the most. Bamboos were used in various processing ways, but 'drying' regardless of sunlight and shade was the most common method. As for the ingestion types, tea was the most common style.

Conclusion: Northern bamboo has been used for various diseases in folk remedies, and it is easy to obtain because it grows anywhere in the country. Eggplant seeds, jujube, licorice, and others are added when processing or ingestion, but in many cases, it is consumed alone without adding anything else. As a result of investigating and analyzing the folk remedies related to northern bamboo, the researchers reaffirmed the value of bamboo through this study. This paper evaluated that northern bamboo has the excellent potential to be used as a multi-purpose natural health food.

[Keywords] Northern Bamboo, Folk Remedies, Processing Ways, Usable Parts, Collection Season

1. Introduction

Northern bamboo is an evergreen broad-leaved shrub belonging to Poaceae. It reaches 1~2m in height and 3~6mm in diameter, and its leaves are long oval lanceolate, spread throughout Korea[1][2]. It grows in groups under large trees at the bottom from the middle of the mountain[2]. Since ancient times, northern bamboo has been used as a folk remedy to relieve fever or treat hypertension or diabetes. Folk remedies are treatment methods handed down from folklore since ancient times, and they refer to methods passed down orally through village elders or household heads[3][4]. Folk remedies are a unique way of treating diseases, using foods

commonly found around us or readily available animals and plants [5][6]. Moreover, these treatments have been passed down to be relatively effective after many years of trial and error. Northern bamboo leaves, also called bamboo leaves, can cool the body's heat and relieve chest tightness caused by the body's heat [7][8]. In addition, bamboo leaves treat water damage existing inside the human body due to the high fever and making urine come out well [2][9][10]. Bamboo leaves have been used to treat children's convulsion, vomiting blood, and severe thirst in fever [11][12]. Also, there is a saying, "If a woman with repressed anger illness boils the frosted leaves of bamboo and drinks the water, she will be healed of the illness" [13][14].

Recently, through scientific research, some of the anti-cancer, antioxidant, and anti-obesity effects of northern bamboo have been revealed [15]. Bamboo is known for its high utilization with medicinal purposes, from the roots to the leaves [16][17]. There are various types of bamboo, and its types are 12 genera and 5000 species worldwide [18][19]. There are 14 species in 4 genera in Korea, including *Phyllostachys*, *Sasa*, *Pseudosasa*, and *Arundinaria*. The results studied on bamboo said that bamboo leaves extract showed strong antibacterial ability against kimchi fermenting microorganisms [20]. Northern bamboo leaves extract was less toxic and showed anti-inflammatory and antibacterial effects [21][22][23].

Many people boil and drink northern bamboo as tea, but not many people know about the various pharmacological effects of northern bamboo. The leaves of northern bamboo contain sugars, amino acids, and vitamins [24][25][26]. Arundoin, cylindrin, taraxerol, and friendelin are known as substances exhibiting physiological activity. Northern bamboo, which has excellent antibacterial action, is also highly effective against various cancers [27][28].

Researchers investigated northern bamboo's origins and growth characteristics through literature research, visited herbal medicine pharmacies, herbal medicine stores, and medicinal herb decocting shops, and studied Naver blogs related to northern bamboo [29][30]. This paper analyzed the frequency of northern bamboo utilization for each related disease used as folk remedies, the collecting season of bamboo, the usable parts of bamboo, the processing ways of bamboo, the ingestion types of bamboo, and the additives when processing and ingestion [31]. Through this study, researchers learned ancestors' wisdom, reaffirmed the value of bamboo, and examined the possibility of using northern bamboo as a multi-purpose natural health food [11][32].

2. Methods

2.1. Gathering data

In order to find out the utilization of northern bamboo for folk remedies, this study analyzed the research materials collected from herbal medicine pharmacies, herbal medicine stores, medicinal herb decocting shops in Daegu and Yeongcheon, and Naver blogs [33] for five months from June to October 2021 <Table 1>. As for the scope of the study, the blogs related to northern bamboo were the most, with 116 places (70.3%). There were 29 places (17.6%) where they did not know precisely or refused answers about bamboo. There were 20 places (12.1%) that responded to the study.

Table 1. Number of subjects studied on northern bamboo.

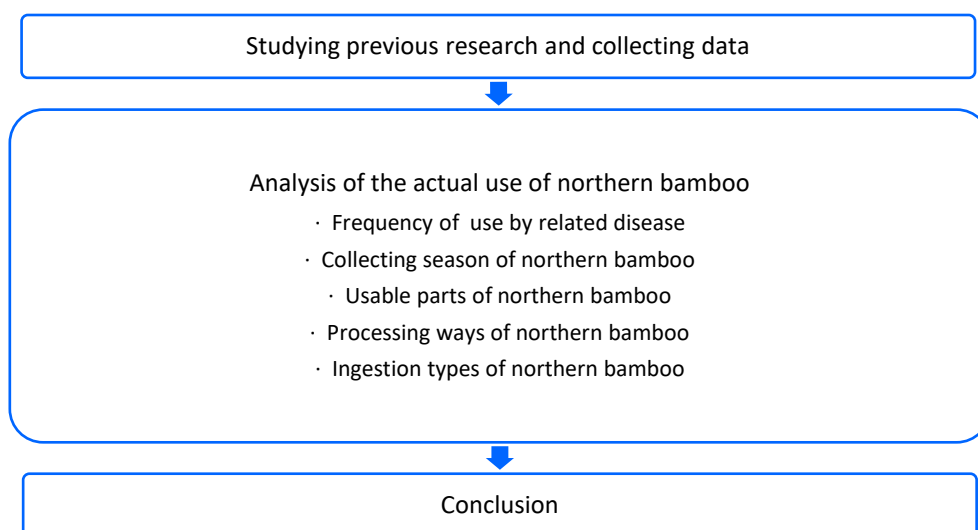
Research scope	Number	Ratio
Herbal medicine pharmacies, herbal medicine stores, and medicinal herb decocting shops in Daegu, Yeongcheon.	20	12.1
	29(No answer, no idea)	17.6
Northern bamboo-related blog	116	70.3
Total	165	100.0

2.2. Data analysis

This study reviewed previous studies on northern bamboo. Researchers examined the frequency of northern bamboo utilization by related diseases for folk remedies, the timing of bamboo collection, the useable parts of bamboo, the processing ways of bamboo, and the ingestion types of bamboo. The researchers visited and conducted interview surveys at herbal medicine pharmacies, herbal medicine stores, and medicinal herb decocting shops in Daegu and Yeongcheon, Gyeongsangbuk-do, from June to October 2021. The cases of northern bamboo's folk remedies on the Naver blog were also investigated, analyzed, and quantified.

Frequency analysis was performed on 136 cases, excluding the 29 cases (17.6%) which refused to respond or answered that they had no idea. <Figure 1> shows the research system map.

Figure 1. Research system map.



3. Results & Discussion

3.1. Frequency of use by related disease

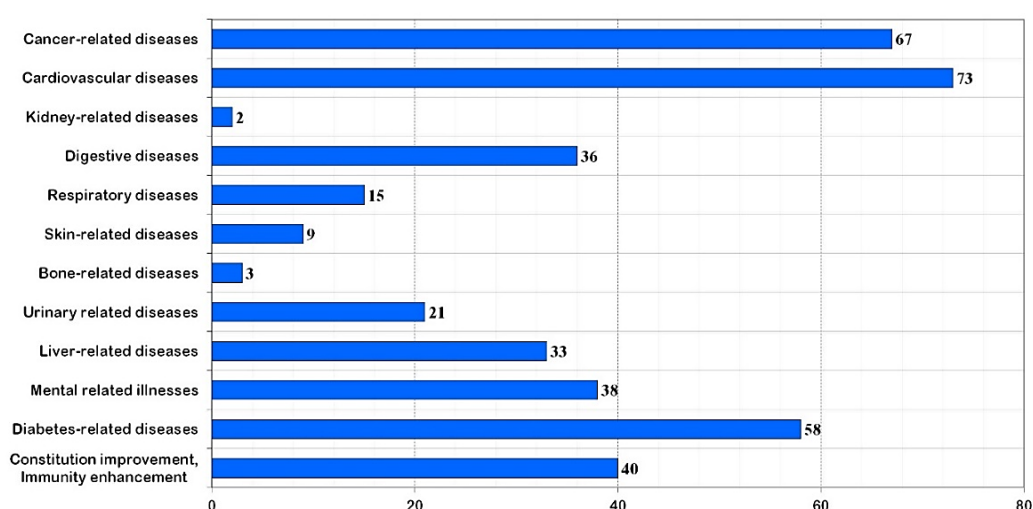
<Table 2> and <Figure 2> show the results of analyzing the frequency of use of northern bamboo by classifying each related disease using bamboo into 12 conditions. The most frequently used diseases were cardiovascular diseases, with 73 times (18.48%). Cancer-related diseases were 67 times (16.96%), diabetes-related diseases 58 times (14.68%), constitution improvement and immunity enhancement 40 times (10.13%), mental-related illnesses 38 times (9.62%), digestive diseases 36 times (9.11%), liver-related diseases 33 times (8.35%), urinary related diseases 21 times (5.32%), respiratory diseases 15 times (3.80%), skin-related diseases 9 times (2.28%), bone-related diseases 3 times (0.76%), and kidney-related diseases 2 times (0.51%). In the folk remedies of northern bamboo, the most frequently used disease was cardiovascular disease, and the most minor used disease was kidney disease.

Table 2. Analysis result of the frequency of northern bamboo use for each related disease.

Related diseases	Frequency of use	Ratio (%)
Cancer-related diseases	67	16.96
Cardiovascular diseases	73	18.48
Kidney-related diseases	2	0.51

Digestive diseases	36	9.11
Respiratory diseases	15	3.80
Skin-related diseases	9	2.28
Bone-related diseases	3	0.76
Urinary related diseases	21	5.32
Liver-related diseases	33	8.35
Mental related illnesses	38	9.62
Diabetes-related diseases	58	14.68
Constitution improvement, Immunity enhancement	40	10.13

Figure 2. Analysis graph of the frequency of northern bamboo use for each related disease.



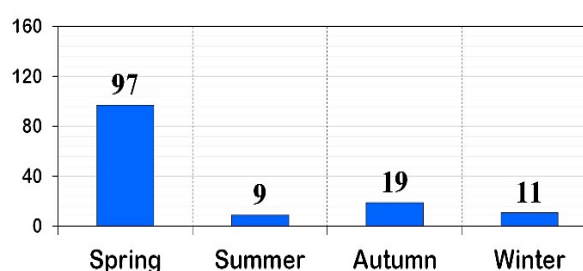
3.2. Collecting season of northern bamboo

<Table 3> shows the analysis results by dividing the collecting period of northern bamboo by seasons, such as spring, summer, autumn, and winter. The most common picking season was spring, with 97 times (71.32%). Next, autumn was 19 times (13.97%), winter 11 times (8.09%), and summer 9 times (6.62%). From these results, this paper analyzed that the northern bamboos were collected the most in the spring when new shoots occurred. <Figure 3> shows the analysis graph of collecting season of northern bamboo.

Table 3. Analysis result of the collecting season of northern bamboo.

Collecting season	Frequency	Ratio (%)
Spring	97	71.32
Summer	9	6.62
Autumn	19	13.97
Winter	11	8.09
Total	136	100.0

Figure 3. Analysis graph of the collecting season of northern bamboo.



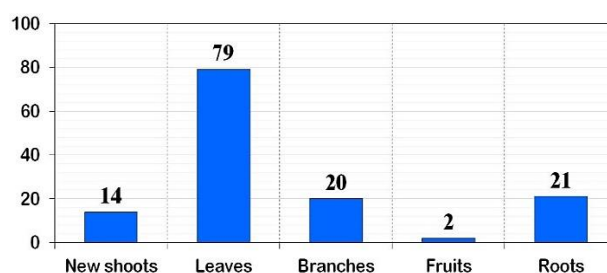
3.3. Usable parts of northern bamboo

<Table 4> shows the analysis results by dividing the used parts of northern bamboo into five categories: shoots, leaves, branches, fruits, and roots. The most commonly used part of bamboo was the leaves, with 79 times (58.09%). Next, roots were 21 times (15.44%), branches 30 times (14.71%), new shoots 14 times (10.29%), and fruits 2 times (1.47%). Northern bamboo has been used from all parts of bamboo, such as shoots, branches, roots, and fruits, but leaves have been used the most in folk utilization. <Figure 4> shows the analysis graph of usable parts of northern bamboo.

Table 4. Analysis result of the usable parts of northern bamboo.

Usable parts	Frequency	Ratio (%)
New shoots	14	10.29
Leaves	79	58.09
Branches	20	14.71
Fruits	2	1.47
Roots	21	15.44
Total	136	100.0

Figure 4. Analysis graph of the usable parts of northern bamboo.



3.4. Processing ways of northern bamboo

<Table 5> shows the analysis results of processing ways of northern bamboo. The first method is to use northern bamboo raw when making a juice or decoction. The second method is to dry it after roasting slightly. The third method is to dry it in the shade. The fourth method is to dry it in the sun or shade. The fifth method is to roast it slightly while drying. The sixth method is to dry it after steaming. The seventh method is to roast it after drying. The eighth method is to decoct it. The ninth method is to ferment it.

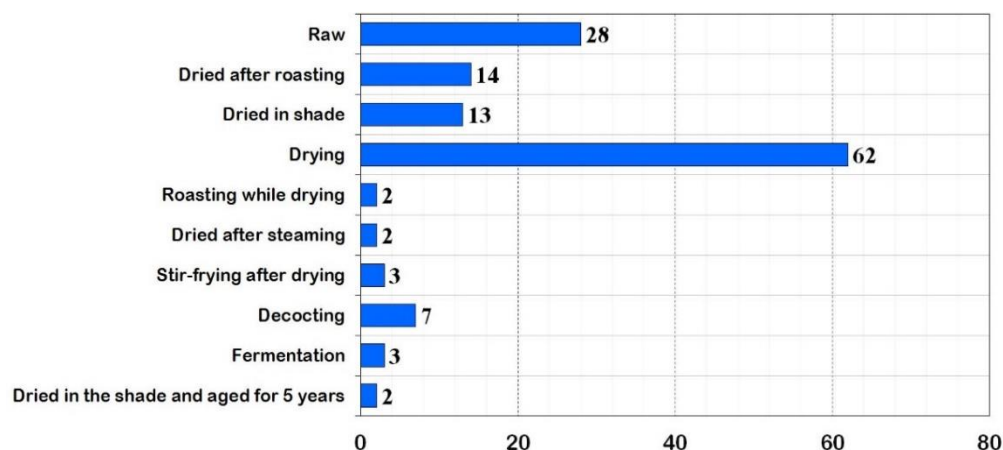
The tenth method is to keep it for 5 years after drying in the shade. As a result of analyzing the processing ways of bamboo, 'drying' regardless of sunlight or shade was the most common method, with 62 times (45.59%). 'Raw' was 28 times (20.59%), 'drying after roasting slightly' was 14 times (10.29%), 'drying in the shade' was 13 times (9.56%), 'decocting' was 7 times (5.15%), 'roasting after drying' was 3 times (2.21%), 'Fermenting' was 3 times (2.21%), 'roasting while drying' was 2 times (1.47%), 'drying after steaming' was 2 times (1.47%), and 'keeping for 5 years after drying in the shade' was 2 times (1.47%). There were various processing methods for northern bamboo, but drying ways were the most common. <Figure 5> shows the analysis graph of processing ways of northern bamboo.

Table 5. Analysis result of the processing ways of northern bamboo.

Processing ways	Frequency	Ratio (%)
Raw	28	20.59
Dried after roasting	14	10.29
Dried in shade	13	9.56
Drying	62	45.59
Roasting while drying	2	1.47
Dried after steaming	2	1.47
Stir-frying after drying	3	2.21

Decocting	7	5.15
Fermentation	3	2.21
Dried in the shade and aged for 5 years	2	1.47
Total	136	100.0

Figure 5. Analysis graph of the processing ways of northern bamboo.



3.5. Ingestion types of northern bamboo

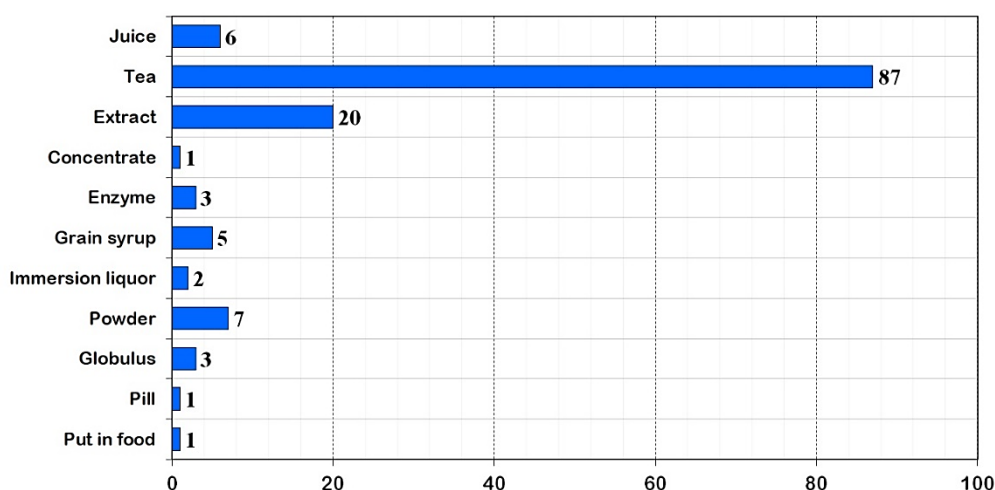
<Table 6> shows the analysis results of ingesting types of northern bamboo. The intake types of northern bamboo are classified into 11 categories. The first category is to eat bamboo as a juice type. The second category is to consume it as a tea type. The third category is to eat it as an extract type. The fourth category is to eat it as a concentrates type. The fifth category is to eat it as an enzyme type. The sixth category is to eat it as a grain syrup type. The seventh category is to eat it as immersion liquor type. The eighth category is to eat it as powder type. The ninth category is to eat it as a globulus type. The tenth category is to intake it as a pill type. The eleventh category is to put it in food and eat it together. As a result of analyzing the intake types of northern bamboo, consuming bamboo as a tea type was the most common category, with 87 times (63.97%). Next, the extract type was 20 times (14.71%). The powder type was 7 times (5.15%). The juice type was 6 times (4.41%). The grain syrup type was 5 times (3.68%). The enzyme type was 3 times (2.21%). The globulus type was 3 times (2.21%). The immersion liquor type was 2 times (1.47%). The concentrates type was 1 time (0.74%). The pill type was 1 time (0.74%). The put-in type was 1 time (0.74%). Northern bamboo was often consumed as tea and decocted as juice. <Figure 6> shows the analysis graph of ingesting types of northern bamboo.

Table 6. Analysis result of the ingestion types of northern bamboo.

Ingestion types	Frequency	Ratio (%)
Juice	6	4.41
Tea	87	63.97
Extract	20	14.71
Concentrates	1	0.74
Enzyme	3	2.21
Grain syrup	5	3.68
Immersion liquor	2	1.47

Powder	7	5.15
Globulus	3	2.21
Pill	1	0.74
Put in food	1	0.74
Total	136	100.0

Figure 6. Analysis graph of the ingestion types of northern bamboo.



4. Conclusion

Northern bamboo is a perennial woody plant belonging to the Poaceae family. Northern bamboo is also called Sanjuk, Jojuk, Jijuk, Ipjuk, Jukyeop, Damjukyeop, Imhajuk, and Tomaekdong.

Northern bamboo is angiosperms and corresponds to Angiospermae-Monocotyledoneae - Poales - Poaceae. The types of northern bamboo include Munsu bamboo, Jirisan bamboo, Korean bamboo, Kuril bamboo, and Broad-leaf bamboo. Northern bamboo is commonly found in the middle of mountains in Korea. Munsu bamboo and Jirisan bamboo can be seen in the Jirisan Mountain area, the end of Baekdudaegan Mountain Range. Korean bamboo is a specialty plant of Korea and grows near Myeongcheon-gun, North Hamgyeong Province, North Korea. Kuril bamboo is tall and can be found on the island of Ulleungdo. Broad-leaf bamboo is small in height and grows on Jeju Island. In analyzing the actual use of northern bamboo to folk remedies, cardiovascular disease was the most frequently used at 73 times (18.48%). Next, cancer-related diseases were 67 times (16.96%), diabetes-related diseases 58 times (14.68%), constitution improvement and immunity enhancement 40 times (10.13%), and mental-related illnesses 38 times (9.62%). The use of northern bamboo was high percentages in cardiovascular diseases, cancer-related diseases, diabetes-related diseases, constitution improvement, immunity enhancement, and mental-related illnesses.

Spring was the most common collecting period of northern bamboo with 97 times (71.32%). Next, autumn was 19 times (13.97%), winter was 11 times (8.09%), and summer was 9 times (6.62%). Northern bamboo was picked the most in the spring when new shoots were born. The most commonly usable part of bamboo was the leaves, with 79 times (58.09%). Next, the roots were 21 times (15.44%), branches 30 times (14.71%), new shoots 14 times (10.29%), and fruits 2 times (1.47%). In folk remedies, all parts of northern bamboo, such as new shoots, branches, roots, and fruits, were usable, but the leaves were the most used.

The most common method of processing for bamboo was 'drying' regardless of sunlight or shade, with 62 times (45.59%).

Next, 'raw' was 28 times (20.59%), 'drying after roasting slightly' was 14 times (10.29%), and 'drying in the shade' was 13 times (9.56%). There were various methods of processing northern bamboo: raw, dried in sunlight or shade, steamed, roasted, decocted, and fermented, but 'drying' was the most common.

As for the types of consumption of northern bamboo, tea was the most common type, with 87 times (63.97%). Next, extract type was 20 times (14.71%), powder type 7 times (5.15%), and juice type 6 times (4.41%). Northern bamboo was often consumed as a tea or ingested as decocted juice. Summarizing the above analysis results, researchers studied that northern bamboo is effective for various diseases in folk remedies, but it was most often used for cardiovascular diseases. Northern bamboo is easy to obtain because it grows anywhere in the country, but it was collected the most in the spring when new shoots were born. Also, all bamboo parts can be usable, but the leaves were used the most. There are many different methods of processing bamboo, but the most common was drying it. When northern bamboo was processed or consumed, eggplant seeds, jujubes, licorices, and others were added, but it was often consumed alone without adding anything else. The researchers reaffirmed the value of northern bamboo through this study and analyzed that northern bamboo has the excellent potential to be used as a multi-purpose natural health food. In addition, this study suggests that more studies on the antioxidant activity should be done to prove the efficacy of northern bamboo in the future scientifically.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Lead Author	KO	-Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/>
Corresponding Author*	CK	-Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/>
Co-Author	HL WL	-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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Actor and Partner Effect of Young Children-Parents' Coparenting of Children, Marital Satisfaction, and Human Happiness

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Abstract

Purpose: The purpose of this study is to validate the actor effect and partner effect of the relationship between coparenting, marital satisfaction, and happiness of parents with children of early childhood, and also provide data for parents' education in the field of early childhood education as well as the enhancement of the parents' marital satisfaction and happiness.

Method: 1305 people from the 7th year (2014) data of the Korean Children's Panel were selected as the subjects of the analysis, and the actor-partner interdependence model (APIM) was applied by using the SPSS 21.0 and AMOS 21.0 for the analysis.

Results: First, the parents' coparenting turned out to have a positive effect on happiness, and in terms of the effect of coparenting on happiness, both father's and mother's actor effect and partner effect turned out to be significant. Second, the parents' coparenting turned out to have a positive effect on marital satisfaction, and in terms of the effect of coparenting on marital satisfaction, both the father's and mother's actor effect and the counterpart effect turned out to be significant.

Conclusion: Implications were provided through the characteristics of the parents' intra-individual and marital dimensions on coparenting, marital satisfaction, and happiness of the parents with the children of early childhood, and the importance of coparenting within the family was discussed.

[Keywords] Actor-Partner Effect, Coparenting, Marital Satisfaction, Happiness, Marital Relationship

1. Introduction

Early childhood is a very important stage for the human development, and during this period, infants are significantly influenced by their parents' nurturing environment, such as social, emotional, cognitive, and language development. Belsky explained various factors of the parental environment through the child rearing process model, and claimed that the children's development has a complex effect on the psychological characteristics of parents, and the children and environmental characteristics[1]. In this study, in order to examine the influence of parents inside the family, which affects the child rearing among many factors that influence the parenting environment, especially within the family, the relationship between psychological characteristics and parenting environment among the personal characteristics of parents with a focus on marital relationships, Belsky's child-rearing process model, which emphasized the relationship, was used as a theoretical framework[1].

Given the recent increase in the number of double income couples and the adoption of nuclear families, the culture of coparenting children in the family is expanding. As a result, and since there is a deviation from the consciousness that mother has the primary responsibility for child rearing in early childhood, studies on the change of the parenting environment such as

marital coparenting through the father's participation in child rearing are being actively conducted[2][3][4]. Furthermore, changes in the family environment change the perception of family's functions and gender roles, and also require fathers raising children to redefine the role of fathers[5]. In line with such changes, fathers also voluntarily participate in child rearing, actively intervene in their relationship with their children, and attempt to successfully balance both the social and family life[6]. That is, the coparenting of parents in the family should be recognized at the cooperative level rather than the individual level of mother and father.

Coparenting through the parenting participation by father is a concept of qualitative factors and communication methods which share parenting roles in the process of raising children[7]. That is, it means sharing the beliefs, values, thoughts, participation level, and emotions of a couple in the process of raising children, and supporting or criticizing each other's parenting behavior as partners[8], and it refers to behaviors that the family wants to support psychologically and physically, cooperate in the presence of children, and integrate[9][10]. Such concept of coparenting is based on the undisclosed father-mother-child interactions and child-bearing interactions in the father-mother-child triad, conveying support or criticism of the spouse to the child, and weakening or consolidating the spouse's role, conflicts between husband and wife at the time of marriage, and parents' measures of discipline for their children, etc., are included[11]. The parents' coparenting strengthens or weakens the marital relationship through conflicts and harmony within the family, thereby forming a nurturing environment, which in turn affects the development of children[12].

Meanwhile, the father's participation in parenting affects the mother's psychological variables within the family, and coparenting, including parental cooperation, is an important factor in the family's parenting environment. From the perspective of the family systems theory, child rearing focuses on the dynamics of interactions which support or weaken the father-mother dynamics[13]. Unlike the traditional parenting environment, the couple's coparenting affects the various psychological variables of the mother as the father participates in the child rearing process[14][15][16]. Furthermore, coparenting, including parental cooperation, is an important factor in the psychological environment of the family, and by alleviating or amplifying parenting conflicts, it forms the psychological environment of the family, and leads to conflict or harmony in the couple, which affects the development of children[12]. That is, the spouse's participation in parenting through feelings, recognition, communication, and empathy affects the behavior and psychology of the other spouse[17]. Belsky emphasized the psychological characteristics of parents as a major factor influencing child rearing[1]. In particular, the terms which refer to positive psychological characteristics are mixed with terms such as subjective well-being, happiness, positive emotion, life satisfaction, and marriage satisfaction[18][19], and the higher the level of satisfaction, the higher the likelihood of positive parenting behavior towards children[1]. It has been reported that there is a relationship between parental marital satisfaction and happiness. It has also been reported that the greater a couple perceives marital satisfaction, the better their psychological well-being, that is, a feeling of happiness, and the lower the feeling of depression[20][21][22].

The studies above suggest that the parents' coparenting not only has a positive effect on the children's development, but is also related to the psychological and emotional characteristics such as the parents' own sense of well-being. The parents' coparenting is related to parental happiness or marital satisfaction, and as such characteristics are affected by the parents' coparenting, it may be inferred that a dynamic and cyclical causal relationship between variables is formed. That is, the parents' coparenting can establish a theoretical hypothesis which forms a relationship of mutual influence on marital satisfaction and happiness. Furthermore, considering that marital coparenting, marital satisfaction, and happiness are not only influenced by the father-mother individually, but also by the spouse, it is necessary to analyze the mutual influence. However, there has been no study conducted as to how the related variables are

affected by the problems between the spouses as well as the problems of the father and mother themselves. As for the analysis of the relationship between variables on the mutual influence of fathers and mothers with the children of early childhood, information on the mutual influence relationship between husband and wife when analyzed individually, without taking into account the fact that a parenting environment through interaction within the home is provided, cannot be obtained. Hence, it is absolutely necessary to apply the actor-partner interdependence model to understand the interaction patterns of father and mother, who are in a significant relationship such as parents that significantly influence each other [23][24].

Hence, this study applies the APIM model for the coparenting, marital satisfaction, and happiness of father and mother with the children of early childhood, taking into account the characteristics of the data that each paired father-mother variable can have on themselves or the other, by applying the APIM model with the purpose of seeking to validate the intra-individual effect and the inter-individual interaction effect. Furthermore, it seeks to find ways to promote the parents' coparenting, marital satisfaction, and happiness, and also provide data for the development of parental education programs in consideration of the psychological characteristics of fathers and mothers. The research questions set for this purpose are as follows.

First, what is the actor-partner effect of the parents' coparenting on happiness?

Second, what is the actor-partner effect of the parents' coparenting on marital satisfaction?

2. Research Method

2.1. Research subject

As for the subjects of this study, the 7th year (2014) data of the Korea Children's Panel (PSKE) collected by the Research Institute for Parenting Policy (KICCE) were used. A total of 1,305 people were used for the final analysis, excluding the data which did not respond faithfully to the major variables of this study, such as coparenting, marital satisfaction, and happiness. As for subject of the 7th year analysis, the age of father was 39.36 years old (SD = 3.947), the age of mother was 36.77 years old (SD = 3.624), and the age of the children was 75.09 months (SD = 1.409, while the gender of the children was 665 boys (51.0%) and 640 girls (49.0%). 1249 (96.5%) fathers were working or concurrently working and studying (including leave from work), 46 (3.5%) were unemployed. 578 (44.9%) mothers working or concurrently working and studying (including leave from work) and 709 mothers (55.1%) were unemployed. Furthermore, 969 fathers (74.3%) and 953 mothers (73.0%) graduated from community college or higher, each respectively.

2.2. Tools of Measurement

2.2.1. Coparenting of parents

As for the measure of the parents' coparenting, the coparenting measure developed by Mchale[11] was modified and adapted by the Korean Children's Panel research team. The parents' coparenting measure was divided into two situations and was consisted of a total of 16 questions, one for the situation in which the spouse and children are together and the other for the situation where the spouse is with the child in the absence of spouse. Each question is consisted of a Likert 7-point scale from 1 point of 'Not at all' to 7 points of 'Very much,' and the score ranges from the lowest of 16 to the highest of 112 points. As for the parents' coparenting, the higher the score, the higher the coparenting characteristics. The questions were consisted of 'Express your child with physical affection (hugging, touching, a d kissing)', 'Tell the child about their parents in a pair (mom and dad!)', or one family unit (my family), and 'Say it together

as a family (our family!).' The degree of internal agreement (Cronbach's α) between the questions of coparenting was .878 for father and .844 for mother.

2.2.2. Marital satisfaction

As for the parents' marital satisfaction scale, Chung[25]'s Kansas Marital Satisfaction Scale [KMSS][26] was modified by the Korean Children's Panel research team to fit the Korean culture. This scale was consisted of 4 questions, and each question is composed of a Likert 4-point scale ranging from 1 point for 'Not at all satisfied' to 4 points for 'Very satisfied', and the score ranges from 4 to 16 points. Furthermore, the higher the score, the higher the extent of marital satisfaction perceived by the parents. The questions consisted of 'How satisfied are you with your husband (wife) as a spouse?' and 'How satisfied are you with your marriage life?' The extent of internal agreement (Cronbach's α) between questions was .915 for father and .908 for mother.

2.2.3. Happiness

As a measure of the parents' happiness, a modified version of the subjective happiness scale of Lyubomirsky and Lepper[27] by the Korean Children's Panel researchers was used. It was consisted of a total of 4 questions, and is composed of a Likert 7-point scale, and the score ranges from 4 to 28. Furthermore, the higher the score, the higher the feeling of happiness. The questions were consisted of 'Overall, I am a very happy person' and 'I am very happy compared to other people'. The internal agreement between questions (Cronbach's α) was .867 for father and .867 for mother.

2.3. Analytical method

In this study, by using the SPSS 21.0 and AMOS 21.0 programs, the actor effect and partner effect of the relationship between coparenting, marital satisfaction, and happiness of fathers and mothers with children of early childhood was verified via the partner interdependence model (APIM) for analysis. People who are in a bilateral relationship, such as a couple, not only influence the other's cognition, emotion, and behavior, but also form a pair like a couple and become independent from each other because there is interdependence between the two (Cook & Kenny, 2005), and hence, as for the research subjects who are human, analysis should be conducted using couples as the unit of analysis[23][28][29].

The actor effect refers to the effect such that one's own psychological characteristics or behaviors have on the self, and the partner effect refers to the effects of one's own psychological characteristics or behaviors on the other person. The maximum likelihood method (ML) was used to estimate the model coefficients in the structural model analysis, and to evaluate the fit of each model, the generally recommended absolute fit index (RMSEA) and model relative fit index (TLI, CFI) were used. Generally, TLI and CFI are more than .90, RMSEA is judged as good fit if less than .05, good fit if less than .08, moderate fit if less than .10, and bad fit if more than .10[30][31][32]. Furthermore, in this study, two question parcelings suggested by Russell, Kahn, and Altmaier were produced for each variable prior to model validation[33], and question parceling was fixed as one factor in each variable. After the exploratory factor analysis was conducted, two packages were allocated based on the factor load, and similar factors were generated for the latent variables.

3. Research Results

3.1. Validation of measurement model

Prior to the analysis of this study, the mean, standard deviation, skewness, and the kurtosis were calculated to check as to whether the normal distribution assumptions for the parents'

coparenting, parents' marital satisfaction, and the parents' happiness, which are the main variables, were satisfied. To investigate, the Pearson's correlation coefficient was calculated. As illustrated in Table 1 below, the skewness of the 12 measurement variables is between $-.528$ and $-.007$, while the kurtosis is between -1.026 and $-.436$, and the value did not exceed 3. Through which, it was confirmed that the absolute values of the skewness and kurtosis of the 22 measurement variables were within the standard values (Kline, 2005; West, Finch, & Curran, 1995), thereby satisfying all the standard values assuming the normal distribution of the data. Based on which, it was also confirmed that the absolute values of the skewness and kurtosis of the 12 measurement variables were within the reference value range, thereby satisfying all the standard values assuming the normal distribution of the data.

Table 1. Inter-measurement variables correlation and descriptive statistics.

(N=127)

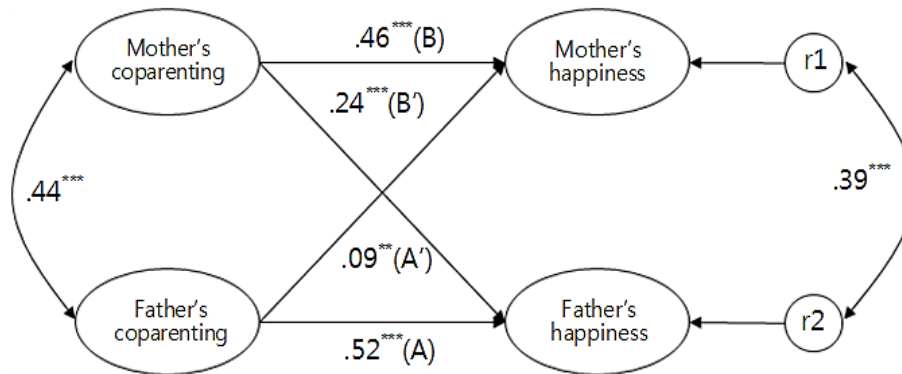
	1	2	3	4	5	6	7	8	9	10	11	12
1	1											
2	.709**	1										
3	.302**	.335**	1									
4	.310**	.397**	.830**	1								
5	.335**	.483**	.270**	.326**	1							
6	.354**	.453**	.317**	.353**	.824**	1						
7	.329**	.412**	.213**	.254**	.461**	.418**	1					
8	.363**	.420**	.232**	.262**	.468**	.420**	.775**	1				
9	.253**	.317**	.398**	.435**	.433**	.417**	.298**	.310**	1			
10	.252**	.298**	.361**	.401**	.402**	.384**	.297**	.316**	.853**	1		
11	.256**	.317**	.388**	.434**	.446**	.423**	.316**	.324**	.952**	.895**	1	
12	.223**	.260**	.391**	.399**	.276**	.292**	.341**	.371**	.414**	.424**	.443**	1
M	23.26	20.52	21.12	20.36	6.61	6.59	10.49	10.87	7.00	7.02	6.99	10.87
SD	3.30	3.82	3.63	3.92	1.15	1.14	2.04	2.06	1.07	1.01	1.08	2.08
Skewness	-0.40	-0.02	-0.09	-0.01	-0.25	-0.33	-0.30	-0.29	-0.53	-0.49	-0.53	-0.15
Kurtosis	-0.56	-0.61	-0.57	-0.45	-0.56	-0.45	-0.44	-0.73	-0.73	-0.85	-0.71	-1.03

Note: * $p < .05$, ** $p < .01$, *** $p < .001$ / 1. Mother's coparenting(1), 2. Mother's coparenting(2), 3. Father's coparenting(1), 4. Father's coparenting(2), 5. Mother's marital satisfaction(1), 6. Mother's marital satisfaction(2), 7. Mother's happiness (1), 8. Mother's happiness (2), 9. Father's marital satisfaction (1), 10. Father's marital satisfaction (2), 11. Father's happiness (1), 12. Father's happiness (2).

3.2. Analysis of the actor effect and partner effect of the parents' coparenting on the parents' happiness

In order to examine the actor effect and partner effect of the father's and mother's coparenting on their happiness, a model was constructed as illustrated in Figure 1. The conformity of the actor-partner effect model of the father's and mother's coparenting on their happiness was $\chi^2(df=14)=39.284$, $p < .001$, $TLI=.990$, $CFI=.995$, $RMSEA=.037$, indicating a good conformity. It was confirmed that the model explained the analytical data very well.

Figure 1. The actor effect and partner effect of the parents' coparenting on the parents' happiness.



Coparenting of father and mother turned out to have a positive effect on their happiness, and both the actor effect and the partner effect turned out to be significant. To compare the relative influence of the actor effect and partner effect of the father's and mother's coparenting, a total of 4 equivalent constraint models were set as illustrated in <Table 2>. The equivalence constraint model was consisted of (1) comparison of the father's and mother's actor effects of coparenting on happiness ($A=B$), (2) comparison of the father's and mother's partner effects of coparenting on happiness ($A'=B'$), (3) comparison of actor effect and partner effect of coparenting affecting the father's happiness ($A=B'$), and (4) comparison of actor effect and partner effect of coparenting affecting the mother's happiness ($A'=B$). The analytical results of the equivalence constraint model are illustrated in <Table 2>, and as a result of analyzing as to whether there is a statistically significant difference between each equivalence constraint model and the basic model through the X^2 difference test, first, the effect of coparenting on the happiness of father ($\beta=.52$) and mother ($\beta=.46$) demonstrated no statistically significant difference for the actor effect. That is, it is evident that there is no difference in the tendency towards happiness as the father's and mother's coparenting is higher. Second, it turned out that there was a statistically significant difference in the relative effect of coparenting on happiness between father ($\beta=.09$) and mother ($\beta=.24$). Specifically, it was confirmed that the mother's partner effect turned out to be greater than the father's partner effect. Third, there was a statistically significant difference between the mother's actor effect ($\beta=.46$) and the father's partner effect ($\beta=.09$) of coparenting on happiness. That is, it means that the mothers' own coparenting has a greater effect on their happiness than their father's coparenting. Fourth, there was a statistically significant difference between the father's actor effect ($\beta=.52$) and the mother's partner effect ($\beta=.24$) on coparenting's happiness. This means that father's own coparenting has a greater effect on happiness than the mother's coparenting.

Gathering the results above, the effect of coparenting of father and mother with the children of early childhood on happiness turned out to have no difference between spouses in terms of the effect of spouse's coparenting on their own happiness, yet it turned out that there was a significant difference between the partner effect. It is apparent that there is no difference in terms of the effect of coparenting on the happiness of parents with the children of early childhood, yet the happiness of both father and mother is more affected by their own coparenting rather than the other's coparenting.

Table 2. X^2 difference validation between the basic model and the equivalent constraint model.

Model	X^2	df	TLI	CFI	RMSEA	$\Delta X^2(\Delta df)$
Basic model	39.284***	14	.990	.995	.037	-

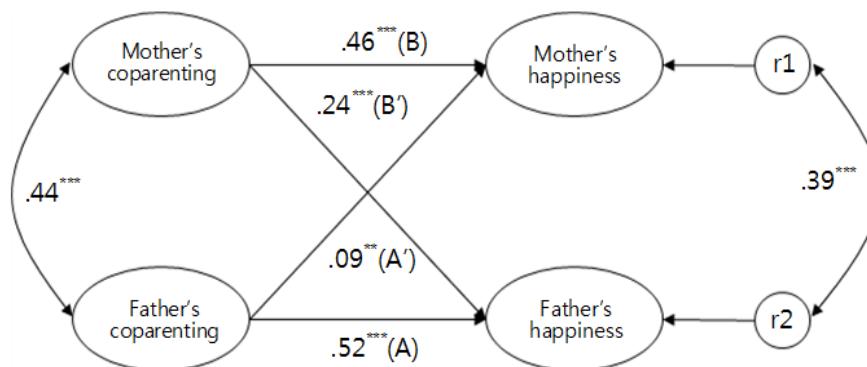
Constraint model 1 (a=b)	39.443***	15	.969	.984	.035	$\chi^2(1)=0.159$
Constraint model 2 (a'=b')	96.886***	15	.991	.995	.065	$\chi^2(1)=57.602***$
Constraint model 3 (a=b')	55.041***	15	.985	.992	.045	$\chi^2(1)=15.757**$
Constraint model 4 (a'=b)	100.090***	15	.968	.983	.066	$\chi^2(1)=60.806***$

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

3.3. Analysis of the actor effect and partner effect of the parents' coparenting on the parents' marital satisfaction

In order to examine the actor effect and partner effect of the father's and mother's coparenting on their marital satisfaction, a model was constructed as illustrated in <Figure 2> The conformity of the actor-partner effect model on the effect of the father's and mother's coparenting on their happiness is $\chi^2(df=14)=50.617$, $p<.001$, $TLI=.989$, $CFI=.995$, $RMSEA=.045$, demonstrating a good model conformity, thereby confirming that the model explained the analysis data very well. Coparenting of father and mother turned out to have a positive effect on their marital satisfaction, and both the actor effect and the partner effect turned out to be significant.

Figure 2. The actor effect and partner effect of the parents' coparenting on the parents' marital satisfaction.



<Table 3> below illustrates the results of χ^2 difference validation based on the equivalence constraint model No. 4 in order to relatively compare the magnitudes of the actor effect and partner effect of coparenting of parents with the children of early childhood on marital satisfaction. Analyzing the results, first, the actor effect of coparenting on marital satisfaction of father ($\beta=.39$) and mother ($\beta=.45$) turned out to have a statistically significant difference. That is, it is evident that the higher the coparenting of fathers and mothers, the greater the tendency to positively affect marital satisfaction. Second, the relative effect of coparenting on marital satisfaction between father ($\beta=.19$) and mother ($\beta=.18$) turned out to have no statistically significant difference. Third, there was a statistically significant difference between the mother's actor effect ($\beta=.45$) and the father's partner effect ($\beta=.19$) of coparenting on marital satisfaction. That is, it means that the mother's own coparenting has a greater effect on marital satisfaction than the father's coparenting. Fourth, there was a statistically significant difference between father's actor effect ($\beta=.39$) and mother's partner effect ($\beta=.18$) on marital satisfaction of coparenting. This means that the father's own coparenting has a greater effect on marital satisfaction than the mother's coparenting.

Gathering the results above, the effect of coparenting between the father and mother with the children of early childhood on marital satisfaction does not differ between spouses in terms of the effect of spouse's coparenting on their own marital satisfaction, and both the father and mother have no difference in marital satisfaction. It is also apparent that both father and mother are more affected by their own coparenting than the other's coparenting.

Table 3. χ^2 difference validation between the basic model and the equivalence constraint model.

Model	χ^2	df	TLI	CFI	RMSEA	$\Delta\chi^2(\Delta df)$
Basic model	50.617***	14	.989	.995	.045	-
Constraint model 1 (a=b)	66.18***	15	.986	.992	.051	$\chi^2(1)=15.563^{**}$
Constraint model 2 (a'=b')	50.992***	15	.99	.995	.043	$\chi^2(1)=.375$
Constraint model 3 (a=b')	58.655***	15	.988	.994	.047	$\chi^2(1)=8.038^{**}$
Constraint model 4 (a'=b)	96.979***	15	.977	.988	.065	$\chi^2(1)=46.362^{***}$

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

4. Discussion and Conclusion

In this study, the actor effect and partner effect of the relationship between coparenting, happiness, and marital satisfaction of father and mother with the children of early childhood were sought to be validated by using the actor-partner interdependence model. This is meaning in that it was possible to analyze the interpersonal and interpersonal interaction characteristics of father and mother on marital coparenting, happiness, and marital satisfaction, and also understand the phenomenon of interactions between father and mother in child rearing in detail. The research results and implications are as follows.

First, the actor effect and partner effect of father and mother on the happiness of the parents with the children of early childhood turned out to be both significant. As a result of comparing the size of the effect, it turned out that there was no significant difference in terms of the father and mother actor effect, and there was a significant difference in the interaction effect of father and mother coparenting on happiness. Specifically, it was confirmed that the mother's partner effect was greater than that of the father's partner effect, thereby confirming that mother's coparenting had a greater effect on the father's happiness. Furthermore, in terms of the effect of coparenting on happiness, both mother and father turned out such that the actor effect had a greater effect than the partner effect, and the couple felt a greater sense of happiness in coparenting themselves than the other's coparenting effect. Such results are supportive of the previous studies[34][35] that marital relationship affects the psychological characteristics of the mother, and that the husband's support perceived by the mother affects the psychological well-being of the mother, and the research results[36] that the marital relationship on the psychological well-being of the father partially influences the quality of parent-child relationship.

Second, coparenting of father and mother with the children of early childhood turned out to have a positive effect on marital satisfaction in general, and both the actor effect and the partner effect turned out to be significant. In particular, as a result of comparing the size of the

effect, the actor effect was not significant, yet it turned out to be greater than the partner effect. That is, both father and mother had a greater effect on their marital satisfaction by their coparenting. Furthermore, there was no difference between father and mother in terms of the effect of coparenting on marital satisfaction. Such results are in line with the previous studies[37] which claimed that the family-integrated coparenting affects the mother's marital satisfaction, and the previous studies which claimed that supportive and positive coparenting occurs when the quality of marital relationship is positive and satisfaction is higher[37][38]. Furthermore, they are similar to the previous studies[39][40] which claimed that when the marital satisfaction is low due to marital conflict or negative emotions within the household, a low level of coparenting relationship is demonstrated and transferred to negative parenting behaviors.

In this study, the relationship between the father's and mother's coparenting, happiness, and marital satisfaction is not different from the pattern of mother and father, but rather mutually influence each other within the marital relationship, and father and mother are affected by each other's happiness and marital satisfaction. Furthermore, it was confirmed through the previous studies and the results of this study that such feeling of happiness and marital satisfaction leads to parenting behavior and also affects the development of children.

Hence, it suggests that in order to activate the parents' coparenting and perform positive parenting in an interdependent marital relationship, it would be effective if and when both spouses make an effort to increase their own happiness and marital satisfaction together. Furthermore, the parents' participation in parenting is facilitated when effective communication is established between husband and wife. The more positive the marital relationship, the greater the likelihood of positive communication, and positive communication seems to have a positive effect on the spouse's marital life and parenting behavior. Furthermore, since marital relationship is the closest relationship in the family, a psychologically strong attachment is formed[41], and hence, a healthy married life would have a positive effect on each other's parenting behavior. In this study, the partner effect of coparenting on marital satisfaction and happiness turned out to be significant for the couple, which supports the results of the previous studies[37][40] which claimed that a couple can undermine the nurturing of the other spouse. As such, a spouse's emotions and perceptions affect the behavior of the other spouse[42], and discriminatory behavior between husband and wife within the family would affect the other and also affect the quality of coparenting[43].

Father and mother, as each spouse, would have their emotions and perceptions influence the other's parenting behavior[44], and such influences would likely determine the quality of parenting, and hence, conflicts may be resolved through positive marital relationships, thereby sharing the parent's role in child rearing[45][46]. It would also be necessary to support each other's parenting by engaging in the mutually recognizable parenting behaviors.

Such results demonstrate that the more satisfied a couple is with their marital relationship or married life, the happier they feel. Furthermore, psychological characteristics such as marital satisfaction and happiness affect the other spouse and determine the quality of parenting. Hence, coparenting through the effective and positive communication between husband and wife can increase marital satisfaction and their sense of happiness, and further influence the positive parenting behavior, and hence, the positive development of children can be expected.

This study has validated the actor effect and partner effect of the parents' coparenting on their happiness and marital satisfaction. Towards this end, by using data from the 7th year of the Korean Children's Panel sampled across the nation, the causality between variables was examined, and this study was meaningful in that it proved the differentiated influence of the aspect of marital interaction through the interdependence of husband and wife and the importance of coparenting.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Lead Author	GB	-Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/> -Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/>
Corresponding Author*	SP	-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 Effect of Body Image and Interest in Looks Perceived by Female College Students on the Empathy of Overcoming Disaster

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Abstract

Purpose: In the present time, the interest in looks has rapidly increased regardless of gender and age, and we are living through the age of priority over looks. An individual's looks is not merely a simple caring, but has also become a social competitiveness, which increases the interest in looks and enhances the body image and self-esteem. The purpose of this study is to examine and understand the effect of the body image and the interest in looks perceived by female college students on the empathy of overcoming disaster targeting the female college students.

Method: As for the research method, a questionnaire was used targeting female college students in Seoul, Gyeonggi, Incheon, and other areas. The questionnaire was consisted of body image, interest in looks, and interpersonal variables, while the frequency analysis was performed to examine the general characteristics of the research subjects, and the multiple regression analysis was performed to examine the interpersonal relationship between the body image and the interest in looks.

Results: First, in terms of the effect of the female college student's body image on the empathy of overcoming disaster, it turned out that among the body images, the interest in looks turned out to have an effect on cognitive empathy, emotional empathy, and attitude empathy, and among the body images, the body satisfaction turned out to have effect on the emotional empathy and attitude empathy.

Second, in terms of the effect of the female college student's body image on the empathy of overcoming disaster, aesthetic orientation turned to have effect on the cognitive empathy, emotional empathy, and the attitude empathy among the interest in looks, and self-expression among the interest in looks turned out to affect the emotional empathy only.

Conclusion: Given the current 'COVID-19' crisis, many problems have ravaged the world, and as disasters prolong, the interest in overcoming disasters has also grown. At the same time, the interest in looks is rapidly increasing due to the priority over looks. Hence, this study has examined the effect of body image and interest in looks perceived by the female college students on the empathy of overcoming disaster, and recognizes the importance of empathy for the interest in looks, and hence, more research would be required.

[Keywords] Female College Student, Body Image, Interest in Looks, Overcoming Disaster, Empathy

1. Introduction

In the present time, as the economy is thriving and life is stable, body image and interest in looks are rapidly increasing[1], while people, regardless of gender and age, are take caring of their looks with interest. In the past, they valued inner beauty importantly, yet now, they consider external factors to be important, leading to an era of priority over looks[2]. As a result, the body image that modern people are interested in is positioned as an important part of living a successful life[3]. An individual's looks are not just a matter of caring, but a social

competitiveness[4]. People accept their interest in looks as a social competitiveness and endeavor to increase their self-esteem for their body image, increase the interest in looks to transform into an ideal beauty, and constantly strive for the various looks management behaviors, finding ways to invest and practice them[5].

Body image is among the first factors to visually perceive others. Meanwhile, the externally beautiful people are satisfied with themselves, lead an active life, and show confidence in society, whereas when they perceive that they are not, they become socially withdrawn, thereby affecting their social life, while confidence declines, making it difficult for them to impress others[6][7].

An individual's looks, that is, body image, operates as a factor which has an important influence as well as social competitiveness before being evaluated as an individual's ability such as interpersonal relationship, occupation, marriage, and empathy[8]. In particular, in the modern society, depending on the body image, the image becomes a standard for determining a person regardless of the actual personality of the person, and hence, the looks management has become an essential factor[9][10]. People evaluate each other based on their looks, whether they like it or not[11].

Lee CY & Lee JB & Na EY claimed that the satisfaction of looks and perception operate as an important mediating effect amidst happiness[12], and Kim JN & Lim YJ claimed that the college students' self-esteem would have a close correlation with the tendency for gratitude[13]. In particular, it is important for the students to interact with each other at a developmental phase where the importance of intimacy and connection emerges[14]. Furthermore, female college students focus on caring for their looks during the period when they are most curious about and interested in their opposite sex[15]. Looks may be effective for the students who recognize their abilities and individuality, and those with positive looks based on their satisfaction enhance their self-esteem and adapt to college life and activities, yet the students with negative views on their looks are socially less active given their low self-esteem[16]. As such, it seems that the greater the looks related satisfaction and self-esteem of the college students, the more amicable the interpersonal relationship and the greater the empathy.

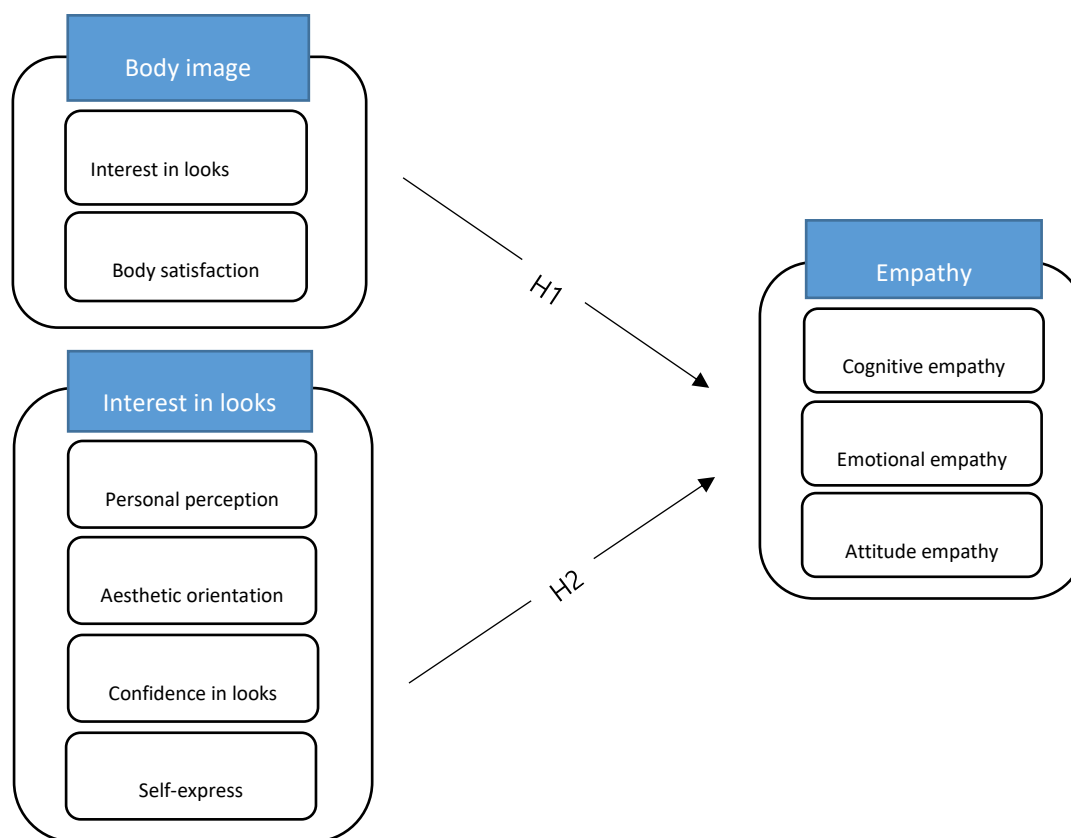
Empathy refers to one's ability to understand and acknowledge differences from other cultures in caring for and looking after people of other cultures[17]. Furthermore, Lee EA claimed that empathy is about sharing and understanding the emotions and feelings of others from the perspective of others[18]. Empathy is not only the ability of a society to improve interpersonal relationships, but also has an important potential for change and development of personality through gaining favorable experiences such as personal adaptation and altruistic behaviors[19].

There are dangers and possibilities of disasters surrounding our lives. Currently, the global disaster of the 'COVID-19' is persisting[20]. Choi JO & Oh SN & Cho MS claimed that it is highly likely that the anger and depression of college students will become increasingly serious due to the current COVID-19 disaster[21], while Choi JB claimed that outside activities were restricted since the COVID-19 outbreak, and that the mental stress increased significantly as the solidarity and communication between people were severed[22]. As such, when a disaster is prolonged, communication with each other is severed given the restrictions on external activities, which is expected to affect the empathy of overcoming disaster for college students.

Hence, in this study, questionnaires were distributed to and collected from female college students, and the questions of the questionnaire for the development of the scale of this study were consisted of body image, interest in looks, and empathy variables as the body image perceived by female college students, whereby the purpose of this study is to examine the effect of body image and interest in looks perceived by female college students on the empathy of overcoming disaster.

2. Research Method and Procedures

Figure 1. Research model.



This study seeks to examine the effects of the body image and the interest in looks perceived by female college students on the empathy of overcoming disaster.

In order to achieve the purpose of this study, the interest in looks and the body satisfaction were determined as the sub-elements of the body image perceived by female college students, and personal perception, aesthetic orientation, confidence in looks, and self-expression were presented as sub-elements of the interest in looks, thereby setting each of them as an independent variable.

The dependent variable of empathy of overcoming disaster was classified into cognitive empathy, emotional empathy, and attitude empathy.

2.1. Sample selection and the data collection

For the empirical study, a questionnaire based on previous studies was prepared, and each question was measured on a Likert 5-point scale. From May 1, 2021 until May 17, 2021, 600 copies of the questionnaires were distributed to female college students and 541 copies were collected. Of which, 525 copies were used as the analytical data for this study, excluding 16 copies of the questionnaire with insincere responses.

As for the interest in looks, the five factors of personal perception, aesthetic orientation, proactiveness orientation, confidence in looks, and self-expression, which were used in the study of Kim CH[23], were used, and as for empathy, cognitive empathy, emotional empathy, and attitude empathy used in the study of Kim WH[24], were used as the three factors. As for the body image, the two factors of interest in looks and body satisfaction, which were used in the study of Cash, TF (1990)[25], and Huddy, D, C, & Johnson, RL[26], were used.

The collected questionnaires were statistically analyzed by using the SPSS 25.0 program. The frequency analysis was performed to examine the general characteristics, while the factor analysis and Cronbach's Alpha values were performed and calculated to test the validity and reliability of the measurement tool, and the correlation analysis was performed prior to the influence test to examine the interrelationships between the variables.

2.2. Research questions

The purpose of this study is to examine and understand the effect of the body image and the interest in looks perceived by female college students on the empathy of the coming disaster. In order to conduct this study, the following questions were established.

Research Question #1. Examine and understand the general characteristics of female college students.

Research Question #2. Examine the factor analysis and reliability analysis of the female college students' body image, interest in looks, and empathy of overcoming disaster.

Research Question #3. Examine the causal relationship of each variable validated through the correlation analysis of the female college students' body image, interest in looks, and empathy of overcoming disaster.

Research Question #4. Examine the effect of the female college student's body image on the empathy of overcoming disaster.

Research Question #5. Examine the effect of the interest in looks of female college students on the empathy of overcoming disaster.

3. Results

3.1. General characteristics of the research subjects

<Table 1> illustrates the general characteristics of the research subjects for the empirical analysis of this study. In terms of their grade year, second year female college students who responded to the survey accounted for the largest number at 29.1%, followed by the third, fourth, and the first year students, and as for the response to the question of whether they are currently working part-time, 56.4% answered "No" and 43.6% answered "Yes."

As a result of surveying the monthly income including allowances, those with less than KRW 500,000 accounted for 60.2% the most, followed by KRW 500,000 to less than KRW 1 million, and those with KRW 1 million or more.

In terms of their place of residence, Gyeonggi-do turned out to be the largest at 53.1%, followed by Seoul, Incheon and others.

As a result of surveying whether they have a boyfriend, "No" turned out to be the most at 71.6%, followed by "Yes" at 28.4%.

As for the monthly expenditures made on caring for looks, less than KRW 50,000 accounted for the most at 55.4%, followed by KRW 50,000 to less than KRW 100,000, and KRW 100,000 or more, and as a result of surveying as to how many times they carried out hobbies or activities per week, twice turned out to be the most at 41.7%, followed by less than 1, 5 times or more, and 3 to 4 times.

As a result of surveying the number of times they met their friends during the past week, less than once turned out to be the most at 43.6%, followed by twice and three times or more.

Table 1. General characteristics of the study subjects.

Classification		N	%
Grade year	1st year	117	22.3
	2 nd year	153	29.1
	3 rd year	131	25.0
	4 th year	124	23.6
Whether part timing currently	Yes	229	43.6
	No	296	56.4
Monthly income (including allowances)	Less than KRW 500,000	316	60.2
	KRW 500,000 to less than KRW 1 million	164	31.2
	KRW 1 million or more	45	8.6
Place of residence	Seoul	196	37.3
	Gyeonggi-do	279	53.1
	Incheon and others	50	9.6
Whether seeing a boyfriend	Yes	149	28.4
	No	376	71.6
Monthly expenditure on looks management	Less than KRW 50,000	291	55.4
	KRW 50,000 to less than KRW 100,000	123	23.4
	KRW 100,000 or more	111	21.2
	Less than once	140	26.7
Number of hobbies per week	Twice	219	41.7
	3-4 times	71	13.5
	5 times or more	95	18.1
Number of times seeing friends per week	Less than once	229	43.6
	Twice	208	39.6
	3 times or more	88	16.8
Total		525	100.0

3.2. Validation of the validity of measured variables and reliability

The internal validity and reliability of the measured variables were tested to verify as to whether the structure of the measured variables used in the study was appropriate for measuring the research concept.

In this study, the principal component analysis was used to reduce or extract many questions to as few factors as possible while reducing the information loss to the extent possible through the factor analysis, and hence, a varimax rotation method of rotating was used.

Furthermore, the factors with an eigenvalue of 1.0 or higher were extracted to determine the number of factors, and the case where the loading value of each factor was 0.5 or less was excluded from the analysis, while the case where the loading value of other factors was 0.5 or more was excluded from the analysis. In addition, in order to analyze as to whether the factor analysis is appropriate, the KMO value was used, and the Bartlett's sphericity test was performed as a statistical test.

Furthermore, to verify the reliability of the variables, the Cronbach's Alpha value, which can analyze internal consistency, was used for the analysis. In general, if the Cronbach's Alpha value is 0.6 or higher, it is determined that there is reliability.

3.2.1. Validation of validity and reliability of the body image of female college students

As a result of the exploratory factor analysis performed for all of the questions for the validity analysis of the measurement variables of the body image of female college students, as illustrated in <Table 2>, it turned out that all of the questions were internally consistent through the factor extraction and varimax rotation by the principal component analysis.

Furthermore, since the KMO value turned out to be higher than .5, there was no problem in the fitness of the factor analysis, and since the p-value was less than 0.05 in the Bartlett value, it turned to be appropriate as a sample for the factor analysis. The Cronbach's Alpha value of each variable also turned out to be higher than 0.7, which satisfies the reliability of the questions.

Table 2. Validation of validity and reliability of the body image of female college students.

Classification	Interest in looks	Body satisfaction	Commonality
It is important for me to always look pretty or cool to others.	.792	-.001	.628
I check my look whenever I can.	.789	.060	.626
I tend to spend much time putting on makeup and clothes before going out.	.783	.118	.627
I am interested in what people think of my looks.	.782	-.140	.631
I always try to improve my looks and strive to look better.	.773	.225	.649
If I don't look well that day, I'll be nervous all day.	.724	-.027	.524
Most people will consider me cool.	.075	.839	.709
I'm physically attractive.	.085	.827	.691
I like the way I look.	-.267	.750	.633
I tend to dress well.	.189	.717	.550
Eigenvalue	3.716	2.552	
Dispersion (%)	37.163	25.524	
Cumulative (%)	37.163	62.687	
Reliability (Cronbach's α)	.866	.792	
Overall reliability	.811		
KMO and Bartlett test	KMO=.811, $\chi^2=2,154.166^{***}$		

3.2.2. Validation of the validity and reliability of female college student's interest in looks

As a result of the exploratory factor analysis performed for all questions for the validity analysis of the measurement variables of the interest in looks of female college students, as illustrated in <Table 3>, all of the questions turned out to have internal consistency through the factor extraction and varimax rotation by the principal component analysis. Furthermore, since the KMO value turned out to be higher than .5, there was no problem in the fitness of the factor analysis, and since the p-value was less than 0.05 in the Bartlett value, it turned out to be appropriate as a sample for the factor analysis. The Cronbach's Alpha value of each variable also turned out to be higher than 0.6, which satisfies the reliability.

Table 3. Validation of validity and reliability of the interest in looks of female college students.

Classification	Personal perception	Aesthetic orientation	Confidence in looks	Self expression	Commonality
I'm interested in what people think of my looks.	.770	.190	.221	.281	.757
I always think it's important to look good before others.	.766	.237	.221	.128	.708
I tend to take care of my looks to make a good impression on others.	.750	.280	.138	.177	.691
I think it's important to look beautiful.	.566	.249	.236	.513	.702
When I go out, I feel much need for clothes I like.	.214	.802	.046	.175	.722
I feel satisfied when I'm well dressed.	.190	.768	.277	-.041	.704
I feel beauty when I'm well dressed.	.275	.745	.179	.217	.711
I think voluminous hair makes me feel confident.	.095	.057	.820	.091	.692
I have confidence in my lively face.	.235	.205	.794	.157	.752
I think that a nice body builds confidence.	.238	.238	.678	.170	.601
I'm willing to do plastic surgery for beautiful looks.	.058	.106	.224	.768	.654
I think putting on makeup is courteous to others.	.338	-.022	-.034	.744	.670
I tend to try to put on makeup that makes me look the prettiest.	.239	.367	.259	.634	.661
Eigenvalue	2.515	2.270	2.163	2.077	
Dispersion (%)	19.350	17.465	16.640	15.977	
Cumulative (%)	19.350	36.814	53.454	69.431	
Reliability (Cronbach's α)	.851	.778	.763	.689	
Overall reliability	.811				
KMO and Bartlett test	KMO=.907, $\chi^2=2,928.872^{***}$				

3.2.3. Validation of the validity and reliability of empathy of overcoming disaster

As a result of the exploratory factor analysis performed for all of the questions for the feasibility analysis of the empathy measurement variables of overcoming disasters, as illustrated in

<Table 4>, all of the questions turned out to have internal consistency through the factor extraction and varimax rotation by the principal component analysis. Furthermore, since the KMO value turned out to be higher than .5, there was no problem in the fitness of the factor analysis, and since the p-value was less than 0.05 in the Bartlett value, it turned out to be appropriate as a sample for the factor analysis. The Cronbach's Alpha value of each variable also turned out to be higher than 0.7, which satisfies the reliability.

Table 4. Validation of validity and reliability of the empathy of overcoming disaster.

Classification	Cognitive empathy	Emotional empathy	Attitude empathy	Commonality
When someone tells me a sad story, I try to sympathize.	.872	.149	.053	.786
When I understand someone, I try to sympathize.	.855	.192	.078	.774
I sympathize with the person who tells me how bad one feels.	.769	.234	.100	.656
When I see someone upset in her face, I get upset too.	.765	.134	.127	.619
I try to feel how the other person feels when she tell me about her serious concerns.	.732	.263	.162	.631
I respect the experience of others.	.108	.783	.163	.651
I'm considerate of others so that they can comfortably say what they want to say.	.175	.756	.219	.650
When I hear a story, I respond by nodding my head.	.198	.736	.160	.606
When I hear a story, I respond by cracking jokes.	.240	.728	.144	.609
I value the moment of conversation I have with others.	.436	.569	.158	.538
By looking at facial expressions, I can understand how they feel.	.112	.199	.849	.773
When I converse, I can understand how another feels by looking at her facial expressions.	.202	.189	.802	.719
I can guess the mood of another by gestures such as sighing.	.050	.198	.791	.667
Eigenvalue	3.588	2.896	2.196	
Dispersion (%)	27.601	22.275	16.891	
Cumulative (%)	27.601	49.876	66.767	
Reliability (Cronbach's α)	.885	.826	.802	
Overall reliability				
KMO and Bartlett test	KMO=.891, $\chi^2=3,262.050^{***}$			

3.3. Correlation analysis

In order to analyze the correlation of the measurement variables, the Pearson's correlation analysis was performed. As a result of the analysis performed, as illustrated in <Table 5>, all of the sub-variables except for the interest in looks, body satisfaction, and self-expression turned out to have a statistically significant positive (+) correlation.

In particular, the questions with a high correlation coefficient turned out to have a high correlation between the interest in looks among the body images and the personal perception among the interest in looks.

Table 5. Correlation analysis for the measurement variables.

Classification	Interest in looks	Body satisfaction	Personal perception	Aesthetic orientation	Confidence in looks	Self expression	Cognitive empathy	Emotional empathy	Attitude empathy
Interest in looks	1								
Body satisfaction	.066	1							
Personal perception	.826**	.021	1						
Aesthetic orientation	.646**	.176**	.594**	1					
Confidence in looks	.529**	.099*	.531**	.457**	1				
Self expression	.653**	-.085	.627**	.426**	.432**	1			
Cognitive empathy	.144**	.047	.117**	.190**	.090*	.060	1		
Emotional empathy	.144**	.199**	.145**	.295**	.156**	.016	.532**	1	
Attitude empathy	.244**	.240**	.264**	.348**	.222**	.208**	.310**	.466**	1

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

3.4. Relationship of effect of the female college student's body image on empathy

<Table 6> illustrates the results of the female college students' body image on the cognitive empathy. The interest in looks turned out to have a significant positive (+) effect on the cognitive empathy, yet the body satisfaction turned out to have no statistical significance with the cognitive empathy.

Table 6. Effect of body image on the cognitive empathy of female college students.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Cognitive empathy	(Constant)	3.288	.178		18.496***		
	Interest in looks	.124	.038	.142	3.266**	.996	1.004
	Body satisfaction	.037	.042	.038	.874	.996	1.004

R²=.022, Adj R²=.018, F=5.929**

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

<Table 7> illustrates the results of the female college students' body image on the emotional empathy. The interest in looks and body satisfaction both turned out to have a significant positive (+) effect on the emotional empathy.

Table 7. Effect of body image on the emotional empathy of female college students.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Emotional empathy	(Constant)	3.585	.124		28.843***		
	Interest in looks	.082	.026	.131	3.087**	.996	1.004
	Body satisfaction	.132	.029	.190	4.467***	.996	1.004

$R^2=.057$, Adj $R^2=.053$, $F=15.723^{***}$

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

<Table 8> illustrates the results on the effect of the female college students' body image on attitude empathy. As in the above, both the interest in looks and the body satisfaction turned out to have a significant positive (+) effect on the attitude empathy.

Table 8. Effect of body image on the attitude empathy of female college students.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Attitude empathy	(Constant)	3.014	.135		22.366***		
	Interest in looks	.159	.029	.229	5.536***	.996	1.004
	Body satisfaction	.174	.032	.225	5.444***	.996	1.004

$R^2=.110$, Adj $R^2=.107$, $F=32.282^{***}$

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

3.4.1. Effect of the female college student's interest in looks on the empathy of overcoming disaster

<Table 9> illustrates the effect of the female college students' interest in looks on the empathy of the coming disaster. Only the aesthetic orientation turned out to have a significant positive (+) effect on the cognitive empathy, and the remaining factors turned out to have no statistical significance with the cognitive empathy.

Table 9. Effect of the interest in looks of female college students on the cognitive empathy.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Cognitive empathy	(Constant)	3.077	.177		17.374***		
	Personal perception	.021	.053	.026	.398	.445	2.248
	Aesthetic orientation	.186	.054	.188	3.432**	.618	1.619
	Confidence in looks	.006	.046	.007	.139	.674	1.483

	Self expression	-.029	.042	-.039	-.698	.591	1.691
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$R^2=.037$, Adj $R^2=.030$, $F=4.992^{**}$

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

<Table 10> illustrates the results of the female college students' interest in looks on the emotional empathy. Aesthetic orientation turned out to have a significant positive (+) effect on the emotional empathy, yet the self-expression turned out to have a significant negative (-) effect on the emotional empathy. The remaining factors were turned out to be not statistically significant with the emotional empathy.

Table 10. Effect of the interest in looks of female college students on the emotional empathy.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Emotional empathy	(Constant)	3.445	.122		28.349***		
	Personal perception	.012	.036	.021	.337	.445	2.248
	Aesthetic orientation	.226	.037	.320	6.069***	.618	1.619
	Confidence in looks	.043	.031	.070	1.379	.674	1.483
	Self expression	-.088	.029	-.164	-3.036**	.591	1.691

$R^2=.106$, Adj $R^2=.099$, $F=15.367^{***}$

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

<Table 11> illustrates the effect of the interest in looks of female college students on the attitude empathy. Only the aesthetic orientation turned out to have a significant positive (+) effect on the attitude empathy, and the rest of the factors turned out to be not statistically significant with the attitude empathy.

Table 11. Effect of the interest in looks of female college students on the attitude empathy.

Dependent variable	Independent variable	Non-standardized coefficient		Standardized coefficient	t	Collinearity statistics	
		B	Standard error	Beta		Tolerance limit	VIF
Attitude empathy	(Constant)	2.963	.134		22.140***		
	Personal perception	.031	.040	.047	.769	.445	2.248
	Aesthetic orientation	.221	.041	.280	5.381***	.618	1.619
	Confidence in looks	.037	.035	.053	1.064	.674	1.483
	Self expression	.021	.032	.036	.674	.591	1.691

$R^2=.129$, Adj $R^2=.122$, $F=32.282^{***}$

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

Shin MK[27] claimed that the interest in looks does not directly affect the interpersonal relationship, yet influences the empathy and indirectly influences the interpersonal relationships, and from such perspective, it is valuable to hold interest in one's own looks, and it ought to be considered as a psychological factor which may have an influence. Furthermore, Lim KH[28] claimed that the greater the interest in looks and satisfaction with looks, the more proactive and positive in expressing one's self to others, whereby the more positive beliefs will be held about the present or future behaviors.

Such results are partially consistent with the findings of this researcher, and the body image and the interest in looks seem to influence the empathy.

4. Conclusion and Recommendation

This study has examined the effect of the body image and the interest in looks on the empathy of overcoming disaster targeting 525 female college students, and the results were as follows.

First, in terms of the effect of the female college student's body image on the empathy of overcoming disaster, it turned out that among the body images, the interest in looks turned out to have an effect on the cognitive empathy, emotional empathy, and the attitude empathy, and among the body images, the body satisfaction turned out to have an effect on the emotional empathy and attitude empathy.

Second, in terms of the effect of the female college student's body image on the empathy of overcoming disaster, the aesthetic orientation turned out to have effect on the cognitive empathy, emotional empathy, and the attitude empathy among the interest in looks, and the self-expression among the interest in looks turned out to have an effect on the emotional empathy only.

In the present time, the people's interest in looks will continue to increase given their priority over looks, and their interest in overcoming disasters is also increasing as they live on with various disasters such as 'COVID-19'.

This study seems to have limited scope of research in the world of COVID-19 and non-face-to-face. Since the study subjects were conducted based on female college students of similar age groups, it seems that various research results can be derived if follow-up studies are conducted by expanding the range of age and gender.

It is hoped that 'COVID-19' will come to its end as soon as possible, and also expected that the people's interest in looks will increase when the disaster is overcome thereafter. Hence, it is necessary to recognize the importance of empathy for the interest in looks and conduct further studies.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Lead Author	MS	-Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/>
Corresponding Author*	JC	-Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/> -Significant contributions to concepts, designs, practices, analysis and interpretation of data <input checked="" type="checkbox"/>
Co-Author	ML	-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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Working Experience of Practitioners at the Dementia Care Center

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Abstract

Purpose: This study was attempted to collect opinions for operating dementia project of Dementia care center and to understand what is needed as a strategy for efficient dementia project by analyzing working experience of practitioners at the Dementia Care Center.

Method: Focus group interviews with practitioner working at 47 Dementia Care Centers in Gyeonggi-do and contents analyzing method were conducted.

Results: The contents of interviews were analyzed by dividing into two themes: the difficulty in conducting dementia project and the development plan for revitalizing the dementia project. Three categories of difficulties in carrying out the dementia projects were derived: negative perception of dementia, insufficient manpower system, and non-establishment of service system, and two categories of development plan were derived as the internal stability of the manpower system and the establishment of regional dementia management hub.

Conclusion: Despite the increased social interest in dementia due to the implementation of the dementia national responsibility program, it was found that it was still difficult to carry out the project due to the negative perception of dementia. For the efficient operation of the dementia care center and vitalization of the project, the stabilization of the employment of working-level workers should be accompanied first, and a more systematic operation plan is needed by clearly establishing the role of each job group and confirming that the job is being performed according to the characteristics of the job.

[Keywords] Dementia, Management of Dementia, Dementia Care Center, Focus Group Interview, Qualitative Research

1. Introduction

1.1. Objective of this study

As the average human life expectancy increases due to development of the country's living level and development of medical technology, it is expected the elder population in Korea to expand in size; 14.3% in 2018 and 20.8% in 2026 [1]. As increase of elder population, social attention to increase of prevalence rate of dementia is required. The number of dementia patients in Korea was 7.24 million in 2018 and is expected to exceed 1 million in 2024, and then 2.71 million in 2050 [2]. Dementia is more difficult to be cured and needs continuous management.

As the number of dementia patients increases, dementia has emerged as a social problem due to urbanization and trends of nuclear family, it is expected to develop public service and institutional intervention at the national level.

The Dementia care center has achieved major innovations in dementia management, such as

improving awareness and raising awareness about dementia, early detection and early treatment of dementia, support for families of dementia patients, and activation of networks among dementia management-related organizations in the local community[2]. Despite this considerable effort being made to overcome dementia, the Dementia National Responsibility System was announced[3]. The reason for the announcement of the National Dementia Responsibility System is that first of all, the dementia care center, which is the core of dementia management, is concentrated in some metropolitan areas including Seoul, so that early treatment at least from the early stage of dementia is a universal service without regional differences[4]. Second, when there are patients who need hospitalization due to psycho-behavioral symptoms after the moderate-stage of dementia, appropriate treatment is not provided due to the lack of coping of hospitals[5]. This is because, when complex service needs such as cognitive decline, psycho-behavioral symptoms, and daily life dysfunction occur, the burden of treatment and care for dementia patients and their families reaches a point where it is difficult to endure[6]. If we look at the main contents of the dementia national responsibility system announced so far, first, the nationwide expansion of the dementia care center[7]. Second, the establishment of the dementia safety hospital, and third, the reduction of the out-of-pocket burden for dementia medical expenses and long-term care expenses[8]. The measures are in response to the three problems listed above, in order to overcome the problem of regional disparity caused by the concentration of dementia support centers in large cities through the nationwide expansion of the dementia relief centers[9]. It is a plan to establish a dementia-safe hospital where dementia patients in need of treatment can receive treatment with confidence, and it is a measure to reduce the burden of medical insurance and long-term care insurance for patients and their families who have complex service needs due to the progression of dementia[10][11]. The dementia national responsibility system is scheduled to be implemented very quickly, with the goal of completing the installation of dementia care centers nationwide by the end of this year. In this rapid implementation process, various difficulties will inevitably be encountered, such as a shortage of manpower, lack of professionalism of manpower, conflict or fragmentation between dementia-related institutions in the community, and moral hazard in the process of using dementia-related services.

In order to overcome these difficulties and establish the dementia national responsibility system at an early stage, first, it is necessary to secure professional manpower at the dementia care center. Second, teamwork and leadership within the dementia care center, which will be composed of a multidisciplinary team, should be established. Third, a close linkage system between dementia-related institutions in the community, including the dementia care center and dementia safety hospital, should be established. Fourth, an accurate and rigorous diagnosis and evaluation process for dementia that will prevent moral hazard in the process of system implementation must be established[12].

Accordingly, the government attempted to introduce various policies to reorganize public service delivery system in relate to health and welfare. The government began to establish dementia care centers at national level in 2017, and as of 2020, there are 256 dementia care centers established and operated nationwide[13]. For instance in Gyeonggi-do, the number of dementia patients has increased from about 1.21 million in 2014 to about 1.59 million in 2020, and 46 dementia care centers are being either established or operated as of 2020[14]. With aim of quantitative and qualitative growth of dementia care center, establishment of dementia management infrastructure has been expanding and practitioners working at dementia care center should make various efforts to improve the quality and efficient implementation of dementia management projects. In addition, to support practitioners research relate to their work efficiency should be conducted. However, the number of studies related to the operation of the Dementia Care Center mainly for workers at the centers are still insufficient.

In order that dementia projects operate efficiently, integrated management in the medical

and welfare sectors must be carried out together. Workers at the Dementia care center are taking a multidisciplinary approach such as nursing, social welfare, occupational therapy, and clinical psychology. Therefore, to realize improvement of the quality and publicization of dementia related service, it is foremost necessary for the Dementia care center to have a system as a public institution by accurately analyzing the current situation. It is important to apprehend whether practitioners at forefront of managing dementia are playing a well-established role as professionals performing the function of the Dementia care center. Therefore, this study aims to analyze the working experience of practitioners at the Dementia care center to collect experience for the operation of the dementia project and to understand what is needed as a strategy for an efficient dementia project.

1.2. The objective of the study

This study aims to analyze the problem with conducting dementia project for workers at dementia care center in Gyeonggi-do, and to provide basic data for the operation of the dementia care center in Gyeonggi-do by collecting opinions on the efficient operation of the dementia care center.

2. Research Method

2.1. Research design

This study is a qualitative research design that conducted focus group interviews with workers at the Dementia Care Center in Gyeonggi-do to collect data and applied content analyzing method.

2.2. Participants in the study

Participants in this study were selected according to the purposive sampling method within practitioners working at 47 dementia care centers in Gyeonggi-do. The study participant group consisted of 2 urban groups and 2 urban-rural complex groups according to participants' residence, and the number of each group was selected as around 10 per group based on the study that it is most active for focus group interview when the number of participants per group were less than 10. There was no occupations restriction in selecting participants since there were various professional workers including nurses, social welfare workers, clinical psychologists, occupational therapists, and physical therapists, and at least one of the people from each center was selected with voluntary participation

2.3. Research questions

In this study, the questionnaire of the interview was drafted to obtain opinions from practitioners at Gyeonggi-do dementia care center on the operation method, and reviewed by professors of nursing who had experience on qualitative research on the readability of the question and suitability of the purpose of this study. Starting with the open and semi-structured question, (e.g. Please feel free to talk about your experiences in dementia project such as difficulties or rewarding moments in performing your duties at the Dementia care center), questions were sequentially asked about the scope of work (e.g. what other projects/programs are being conducted at the Dementia care center?), problems (e.g. what role and limits do you think the Dementia care center has at this point?)

2.4. Data collection

From July 8 to December 4, 2020, 40 people from four groups (about 10 people per a group) were collected using the education room of the Gyeonggi Provincial Cognition Center, which is quiet and can be discussed in groups. Due to the COVID-19 pandemic, the focus group interview

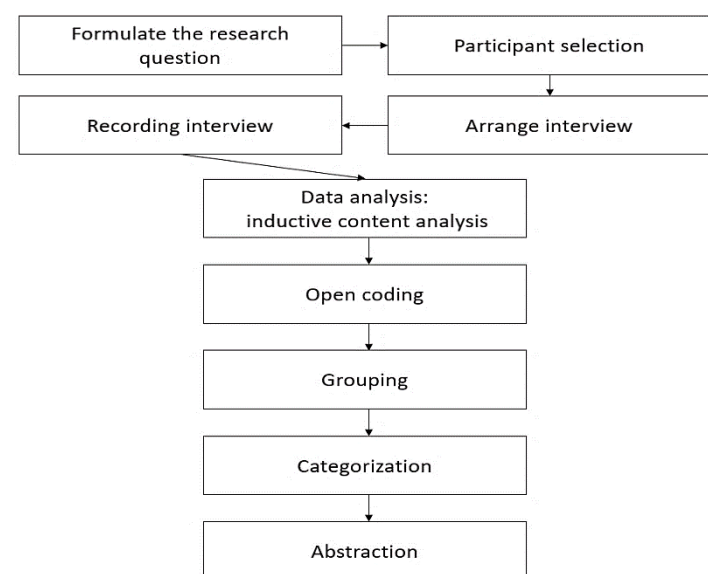
duration is not regular as it is conducted according to the schedule of the practitioners at the Dementia care center. The main author of this study is a lifelong member of the Korean Society of Qualitative Research, and the researcher received a doctoral degree in qualitative research and became proficient qualitative research.

The researchers first explained the purpose and process of the interview and recorded the contents of the interview, and got the participants' signature on the consent form to participate in the study and started the interview. In addition a simple self-conduct questionnaire on general matters was prepared before beginning the research. During the focus group interview, researcher observed the participants and personally asked questions to ensure that no participants were alienated from the interview. The interview took two and a half hours to three hours for each group, and was conducted once for each group. The overall interview process was completed after confirming that there was no more new answers derived from each group. At the end of the discussion, it was explained that participants can contact research team regarding additional questions about the research analysis process. Immediately after the interview, the research assistant transcribed four interviews as they were recorded, and the length of the interview transcription was 162 pages long in A4 paper size. The contents of the data collected during the interview analysis process were checked, additional questions from analysis process were asked through video conference (one time, two hours).

2.5. Data analysis method

In this study, inductive content analysis method was used to analyze the work experience of dementia care center practitioners to formulate management measures for the Dementia care center in Gyeonggi-do. For data analysis research team tried to repeatedly read and immerse the research material without general stereotype. Research team recorded the interview at the interview site, repeatedly read the content transcribed and found meaningful patterns and themes of the phrase or sentence and coded (open code). The data coded were classified and grouped into similar concepts while research team read coded data once again. (grouping) Based on grouping the data was categorized into semantic units (categorization) and abstracted by subject considering their commonalities and relationships (abstraction) and then key themes were derived. At this time, the research team continually confirm whether the categorized data matched the statements of the actual participants. At the final stage, derived key theme were defined and described the participants' experiences by sub-categories[15] <Figure 1>.

Figure 1. Methodological Framework.



2.6. Ethical considerations of research

This study was conducted with research approval (SM-2020103-068-2) through deliberation by the Institutional Bioethics Committee of S university for ethical protection of research participants. This study delivered official documents on participation in this research to 47 dementia care centers in Gyeonggi-do to recruit research participants, and this process aimed at workers who wanted to voluntarily participate among those who could exchange meaningful opinions on the research theme. During recruiting it was emphasized that the research is being conducted by the voluntary participation of the participants, and it was explained that participation can be refused even during the research, and that there is no disadvantage even if you give up in the middle. Finally, it was further explained that the interview contents were recorded and transcribed, that anonymity was guaranteed, and that the data would be used only as analysis data for this study, and this was also specified in the written consent form.

3. Research results

3.1. General characteristics of study participants

When classified by work position, 37 (92.5%) of the participants were team members, and 3 were team leaders (7.5%). By occupation, there were 24 nurses (60.0%), 8 social welfare workers (20.0%), 5 occupational therapists (12.5%), 2 administrative agents (5.0%), and 1 physical therapist (2.5%). The status of the workers was 28 public officials (70.0%), and 12 non-public officials (30.0%), and the employment type there were 18 part-time optional public officials (45.0%), 10 general public officials (25.0%), and 10 non-public officials (25.0%), one part-time worker (2.5%), and one other (private consignment) worker. The department (teams) in charge of the study participants were : 16 people for family support family support (40.0%), 7 people for early screenings (17.5%), 6 people for counseling and registration management (15.0%), 4 people for shelter operations (10.0%), 4 people administrative works (10.0%), and 3 people awareness improvement and promotion (7.5%). As for related work experience. 4 people (10.0%) with less than 3 years, 6 people (15.0%) with 3 to less than 5 years, 8 people (20.0%) with more than 5 years and less than 10 years, and 5 people (12.5%) with no work experience at all.

3.2. Focus group interview analysis results

1) Difficulty in carrying out the dementia project. As a study result, 19 concepts were derived from difficulties in carrying out project by dementia care center practitioners, and classified into 9 subcategories: 1) fear, 2) lack of knowledge, 3) job insecurity, 4) lack of expertise, 5) insufficient number of workers, 6) accessibility issue, 7) lack of detailed guidelines, 8) performance-oriented project evaluation, 9) limitations in service use. In addition, the results of analysis could be classified into three higher categories; 1) negative perception of dementia, 2) insufficient manpower system, 3) non-establishment of service system. The analysis results are as follows <Table 1>.

Table 1. Difficulty in carrying out the dementia project experienced by practitioners of the dementia care center.

Category	Sub-category	Concept
Negative perception of dementia	Fear	Fear to accept having dementia and eventually abandoned Neighbors' judgement Negative perception
	Lack of knowledge	Difficult to admit having dementia despite the diagnosis
Insufficient manpower	Job insecurity	Difficulty in continuous work due to the tenure system Inability to allocate manpower to conduct project smoothly

system	lack of expertise	Short working period and frequent personnel changes Lack of experience in dementia work
	insufficient number of workers	No clear duty allocation per job position Limitations of the a part-time doctor system
Not established service system	accessibility issue	Geographic limits The burden of pickup and drop-off service
	lack of detailed guidelines	Lack of specific guidelines for pickup and drop-off Need to establish standards for external instructors Need for clear presentation for personnel standards
	performance-oriented project evaluation	Evaluation system focusing on early dementia screening performance
		Focusing on performance rather than providing quality service
	limitations in service use	Dementia National Responsibility System that is not felt in the front line
		Lack of practically available services

3.2.1. Negative perceptions of dementia

The subcategories of ‘fear’ and ‘lack of knowledge’ were derived from the upper category of ‘negative perception of dementia’. Based on the negative perception of dementia there was fear of the disease called dementia, and the lack of accurate knowledge about dementia left patients and families abandoned from dementia. Even though they were diagnosed with dementia, it was found that the caregivers did not consider them as having dementia, and due to fear of negative judgement of their neighbors, refused to use the dementia care center.

“Dementia is not an unfamiliar disease. It's a disease we need to take care of. This part appealed to me a lot, but the caregiver said that while living in the same apartment with neighbors they looked his mother negatively when they found out she had dementia. He said he and his mother were okay for the disease, but due to negative gaze, his mother told him she was considering entering the dementia center, because of the scary gaze...(Participant 29)”

3.2.2. Insufficient manpower system

In the upper category of ‘insufficient manpower system’, three subcategories were derived: job insecurity, lack of expertise, and insufficient number of employees. In terms of job insecurity, it was difficult for practitioners to consistently work due to lack of guarantees of tenure, for instance in the circumstance of part-time system, time selective term officials, and fixed-term system, which made it difficult to allocate manpower to facilitate the project. Due to frequent personnel transfers, the average working period is short, and personnel transfers that are not related to dementia work led to a lack of experience in the dementia project, which lowered the professionalism of the dementia care center workers.

“The Dementia care center requires a lot of tenure. In the case of the tenure system, for some people, the tenure system itself is job insecurity. So if there is a better opportunity after two years, they will just leave away (Participant 6)”

3.2.3. Non established service system

In the upper category of ‘Non established service system’, four subcategories were derived: accessibility issue, lack of detailed guidelines, performance-oriented project evaluation, and limitations in service use. In the case of Gyeonggi-do, it is not simple division between city and county, but rather a concept of city and rural area, and it has various geographical characteristics of city, urban and rural complex, and rural area. In specific, rural area found to have access issue to dementia care center due to large region and public transportation issue.

The participants showed that due to the evaluation system focused on the performance of early dementia screening, they had no choice but to operate a project that focused on project performance rather than providing quality services. It was found that the continuity of work was poor due to the performance-oriented evaluation system, and it was difficult to qualitatively manage of subject due to the evaluation system that did not reflect the performance of specialized projects and regional characteristics. In addition, participants also said there is a limit to satisfying the needs of the subjects due to the lack of various services that can be provided by the dementia care center.

“Like most of Gyeonggi-do, all provinces have large area. Also, the public transportation is not like Seoul. Since there are not many subways and buses, it is very difficult for the elder people to get on the bus and participate the program and then go back (Participant 38)”

“There are issues that we cannot support elderly qualitatively because we are driven by performance. It is a pity but I cannot do it because of the performance despite the fact that I have ability to provide qualitative service (Participant 5)”

“The government spends a lot of money and promotes a lot, but I think there is limits on the practical services we can provide to the elderly with dementia (Participant 23)”

3.3. Development plan for revitalization of dementia project

Research team derived 23 concepts as a development plan to revitalize the dementia project, analyzed the characteristics of each concept, classified into 7 subcategories : 1) stabilization of employment 2) establishment of a qualitative education system 3) presenting a clear project direction, 4) consumer-oriented service, 5) improvement of evaluation system, 6) establishment of internal/external resource linkage system, and 7) improvement of legal system. The results of analysis could be classified into two higher categories: 1) stabilization of the manpower system and 2) establishment of a regional dementia management hub system. The results are as follows : <Table 2>.

Table 2. Development plan for revitalization of dementia project.

Category	Sub Category	Concept
Stabilization of the manpower system	stabilization of employment	<ul style="list-style-type: none"> • Need to change the manpower supply and demand system. • Need to secure standard manpower
	establishment of a qualitative education system	<ul style="list-style-type: none"> • Feeling difficulties in practical application even after receiving training • Despite sufficient education it is difficult to focus • Need to systematic education to strengthen expertise • Need a system to receive supervision
Establishment of a regional dementia management hub system	Presenting a clear project direction	<ul style="list-style-type: none"> • Need to present clear project guideline for Dementia care center • Difficult to set the direction of project due to performance • The role of a dementia-related hub in the region is the future direction.
	consumer-oriented service	<ul style="list-style-type: none"> • Need to develop a variety of online / offline content • Need to develop content at the Gyeonggi-do level • Regional services must be provided • High demand for new information on dementia • Need to develop a program for patients with mild dementia • Need to expand Service usage standards
	improvement of evaluation system	<ul style="list-style-type: none"> • The evaluation system for quality management needs to be supplemented • Performance in specialized projects must be recognized • It is necessary to adjust the target amount for each project according to the local situation.

	establishment of internal/external resource linkage system	<ul style="list-style-type: none"> • Need to simplify administrative procedure • TFT required for effective dementia management • An incentive system is required for participating institutions • Need for a smooth linkage system with local mental health
	improvement of legal system	<ul style="list-style-type: none"> • Mandatory dementia screening system • Need for case management system for legal issue • Need for legal support for crisis intervention in case of emergency

(1) stabilization of the manpower system

Two subcategories of employment stabilization and provision of a qualitative education system were derived from the upper category of ‘stabilization of the manpower system’. More than 70% of the working-level staff at the Dementia care center are term or part-time civil servants, so a change in the manpower supply system is necessary for employment stabilization. Said it was necessary to prepare.

“I think the tenure system is key issue. I hope authorities will think about that a little bit more (Participant 6)”

"I think it would be better if the training system on employees' jobs would be more focused. I think we need to study too much to educate people who take care of your family. But it is not done with just experts, but I think the education needs to be periodic more expert is needed (Participant 25)."

(2) establishment of a regional dementia management hub system

7 subcategories were derived; Need to present clear project guideline for dementia care center, providing consumer-oriented services, improving the evaluation system, establishing a system for linking internal and external resources, and improving the legal system, from the upper category of ‘establishment of a regional dementia management hub system’. Research participants said that, it was most important to establish a clear role for the dementia care center in the local community, and emphasized that the dementia care center should operate its own role and act as a coordinator which connects other service provider when the service is not provided by the center.

In the case of Gyeonggi-do, it has regional characteristics of a mixture of urban and rural area, and it has been found that it is required to develop an operation model that reflects regional characteristics and a program specialized to rural areas since it is difficult to manage a large area with one or two branch offices. To provide qualitative services, the regional care center has developed and operated various regionally customized programs, and particularly this year, there were many difficulties in project operation due to COVID-19, but it was converted to a contactless project and operation of a specialized project to the rural region, etc., it has been making great efforts to provide customer oriented qualitative services. However, due to performance-oriented evaluation, the focus is on performance rather than actual service provision, and in the case of a project that does not reflect the performance, it is found that there is issue in the continuous operation. Therefore, the participants said that it was necessary to improve the evaluation system for the project’s quality management.

“I think it is more desirable to move forward with the role of coordinating appropriate resources within the community rather than an institution in which all patients come and take medical tests” (participant 9)

“I hope there are more programs specialized for rural area. There is few illiterate people in Seoul or urban area but there are a lot of elderly people who barely can write his/her name. Considering that, I want to ask to develop illiterate program customized to rural area.” (participant 39)

“It is very difficult for patient with mild dementia symptom to adapt at normal day care center. I think there should be more facilities for mild symptom patients” (participant 33)

4. Discussion

Since Korea has been rapidly entering a super-aged society, the government announced ‘national dementia responsibility program’ such as prevention of dementia, early screening of dementia and linkage of health and welfare resources, to control the severity of dementia and reduce social costs.

After analyzing the experiences of the dementia care center practitioners, it was derived into categories of 'negative perception of dementia', 'insufficient manpower system', and 'service system not established' from the difficulties in carrying out the dementia project. The first category, ‘Negative Perception of Dementia,’ as suggested in a study[5] analyzing the priority of the national dementia responsibility program, improving dementia awareness, and creating a dementia-friendly social environment were the most important as like this research suggest. Due to negative perceptions and prejudice of dementia, there is a high risk of further progression of dementia as family members do not accept it and neglect it. This is also related to the lack of knowledge of dementia. In order to improve the negative perception of dementia, it is considered that it is necessary to improve the awareness of dementia and actively promote dementia among people in Korea.

Secondly, due to ‘Insufficient manpower system’, workers at the dementia care center have difficulties in consist work due to the tenure system, which results in difficulties in employee allocation to conduct project smoothly. In addition, due to the tenure system, it is difficult to adequately respond to the needs of patients and their care givers due to the employee’s short working period, frequent personnel transfers, and lack of experience in dementia-related tasks. In order for the Dementia care center to provide integrated health and welfare service, workers with expertise must be deployed, but the problem of the concentration of experts and absence of professional employee continuously arise[16][17]. For this reason, the limitations like ambiguous work scope standards and the recruitment of a large number of professional personnel over a short period of time are being discussed. In order to realize the publicization of dementia-related services, it is most necessary for the dementia care center to have a system as a public institution, and it is important that the professional staffs perform the tasks of the dementia care center.

In the third category, ‘not established service system’, there were 4 subcategories of accessibility issues, lack of detailed guidelines, and limitations in performance-oriented project evaluation and limitations service use. A study scope for families using the dementia care center reported that the use of the Dementia care center has limitation due to lack of facilities because of accessibility issue and actual available services[18]. Currently, 46 dementia care centers are operating as of 2020, but it can be found that the service system has not been properly established so far. Therefore, it is necessary to systematize guidelines for services in the dementia care center and to improve the quality of services, not focusing on performance-oriented evaluation like early screening of dementia.

In this study, it is presented that the difficulty of carrying out the dementia project by the working-level dementia care center, as well as the development plan for the revitalization of the dementia project in the future. As a development plan for revitalizing the dementia project, the first theme was 'strengthening the manpower system'. It was considered that ‘enhancing the manpower system’ was derived as a solution to ‘insufficient manpower system’ from the difficulties in carrying out the dementia project presented above. If the employment of the De-

mentia Care Center is still instable, it will be difficult to operate the Dementia Care Center normally over time, and dementia patients and their families will experience inconvenience. Therefore, it is necessary to stabilize employment through changes in the employment supply and demand system as soon as possible. In addition, in order to improve the expertise of practitioners, a systematic education system is required so that a qualitative education system can be prepared[19] and applied to practice, not a one-time education.

As a development plan for revitalizing the dementia project, 'establishing a dementia management hub system in the region' was derived as the second theme. The construction of a dementia management hub aims to efficiently link health, welfare, nursing, and medical services according to the needs of the dementia patient so that they can live in the local community, and at the same time, strengthen the home protection function of the dementia patient by reducing the burden of caregivers for the dementia patient[8]. For a dementia management hub system, future studies are needed on the following. Filling the structural gap within the community in the hub function classification is called a bridging tie, and it is used in the community by the Dementia care center, an institution in charge of this connection[20][21][22].

One of the reasons for the reorganization of the hub function delivery system is to provide networking services with high efficiency, effectiveness, and satisfaction to the dementia patient and their families, but in the future, it is expected to expand the participation of the elderly with dementia and their families in the networking process[11]. It is necessary to study ways to secure democracy and increase allocative efficiency to better understand the preferences of caregiver[23].

Considering that about 15% of dementia is reversible dementia that can be recovered when detected early, and considering that even irreversible dementia case, therapeutic intervention through early detection can delay the progression of symptoms[22], the role of the Dementia care center is very important[23]. Intervention programs for dementia prevention, systematic and regular exercise in old age has a positive effect on body composition and physical strength, and further positively affects cognitive function, thereby preventing dementia[24].

As a result of a qualitative study targeting the caregivers of early dementia patients, it was emphasized early detection and accurate diagnosis of diseases. Therefore, it is important to develop a specialized program in consideration of the characteristics of early-onset dementia, establish a nursing strategy, and establish a national support system in the dementia care center[25].

Therefore, it is necessary to establish a hub system for dementia management in the region. It is necessary to present a clear project direction and provide dementia patients and family-centered services more systematically through detailed work division and manuals[16][26] rather than the non-establishment of the dementia project system. In order for the Dementia Care Center to play an important role in dementia management, it will also be necessary to have a smooth linkage system with local mental health service, and in order to detect, prevent and manage dementia through early dementia screening, it is necessary to mandate dementia screening through a legal system[27][28][29][30][31].

This study is a qualitative study conducted on workers at the Dementia care center in Gyeonggi-do, and it should be cautious to generalize the research results since working-level experiences of dementia care center workers may vary depending on the region. Based on the results of this study, it is necessary to consider the difficulties of practitioners in carrying out dementia projects and development measures to revitalize the dementia project when operating the Dementia Care Center in the future.

5. Conclusion and recommendations

This study was attempted to provide basic data for the operation of the dementia care center customized to Gyeonggi-do by identifying the problems with the operation of the dementia care center in Gyeonggi-do and collecting opinions on the efficient operation of the dementia care center. Based on the results of this study, the research recommendations are as follows.

First, it is necessary to identify the tasks of the dementia care center practitioners by clearly dividing the duties within the job groups as well as between the job positions. Second, to enhance the expertise of workers, it is necessary to prepare a qualitative education system to manage dementia in regional society. Third, the dementia care center needs to strengthen its management function rather than providing dementia-related services directly, and to establish a clear role as a central hub for dementia projects in the local community. Fourth, since this study focused on worker in Gyeonggi-do, it has limitations in generalizing the research results for practitioners in other province, so future studies will need to diversify the region of the study. Also as the direction of the policy is also constantly changing, this study suggest that periodic research focused on the practitioners of the dementia care center be conducted in various aspect.

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7. Appendix

7.1. Authors contribution

	Initial name	Contribution
Lead Author	MS	-Set of concepts <input checked="" type="checkbox"/>
		-Design <input checked="" type="checkbox"/>
		-Getting results <input checked="" type="checkbox"/>
		-Analysis <input checked="" type="checkbox"/>
Corresponding Author*	SP	-Make a significant contribution to collection <input checked="" type="checkbox"/>
		-Final approval of the paper <input checked="" type="checkbox"/>
		-Corresponding <input checked="" type="checkbox"/>
		-Play a decisive role in modification <input checked="" type="checkbox"/>
Co-Author	YS	-Significant contributions to concepts, designs, practices, analysis and interpretation of data <input checked="" type="checkbox"/>
	HK	-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 Psychological Effect of the Grateful Meditation Program Following the Anxiety and Stress Caused by COVID-19

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Abstract

Purpose: In order to address the problem of human alienation due to anxiety, stress, and economic polarization in our society, meditation programs have emerged as an important means in the fields of psychology and psychiatry, and hence, this study was conducted to verify the effect of grateful meditation program on the psychological variables.

Method: This study is a literary analysis study, and by examining 8 papers on grateful meditation programs conducted in Korea, the contents of gratitude and meditation methods used for these studies were analyzed, and the effects of these programs on the dependent variables.

Results: First, as for the contents of gratitude used for these programs, the greatest number of gratitude was for one's own body (8th paper), one's own existence (7), family (6), neighbors (5), nature (5), friends (4), and objects (2) were analyzed as the most, respectively. Second, as for the meditation method adopted for the grateful meditation program, it was analyzed that breathing meditation was used for the preparation phase, visualization meditation or mantra meditation was primarily used for the development phase, and motion meditation was partially used for the finishing phase. Third, the grateful meditation program was analyzed to be effective across all dependent variables (satisfaction of life, positive and negative emotions, self-esteem, anger, disposition of gratitude, and interpersonal relationships) set for 8 studies.

Conclusion: First, the future grateful meditation program ought to change the contents of the gratitude according to age. Second, the method of meditation ought to also change according to age. Third, the contents of gratitude or the method of meditation ought to be changed according to the dependent variable to be improved through the grateful meditation program. Fourth, if the 'time of consideration for myself' is preceded by the grateful meditation preparatory program for palpating my cognition, emotions, and actions, it would be possible to proceed more effectively and in depth during the development phase, grateful meditation. Hence, the grateful meditation program is a powerful program in promoting the cognitive, emotional, and the behavioral changes for the participants, and hence, it ought to be more systematic and widely used moving forward.

[Keywords] COVID-19, Anxiety, Stress, Grateful Meditation Program, Effect

1. Introduction

1.1 Need and purpose of the study

Today, more than ever, we live in an era of fast changes in the natural environment. Unexpected extreme weather events including drought, flood, heat wave, wildfire, and cold wave are reported each and every day through the news, and the world is suffering from the outbreak of viruses such as COVID-19[1][2][3]. Such changes in the natural environment cause anxiety and stress in people, weaken their immunity, and even lead to their death. From the perspective

of the socio-cultural environment, the 4th industrial revolution characterized by the development of capitalism, the revolution of the Internet, and the development of artificial intelligence is rapidly progressing[4], which polarizes the social structure and further deepens the sense of alienation among the individuals[5]. In order to address the problems of anxiety, stress, polarization, and human alienation, a meditation program has emerged as an important means across the fields of psychology or psychiatry in recent years[6][7][8][9].

Meditation literally means the 'act of meditating quietly' or 'quietly settling in thoughts,' and also means the act of 'letting go of desires and thoughts but remaining awake clearly.' Meditation began with yoga meditation in India and developed into the Buddhist meditation. Yoga meditation refers to reaching the state of concentration, which is a state in which the mind is completely emptied and only the object emits light by stopping and controlling the agitation of the mind[10], while the Buddhist meditation leads to nirvana through transcendence, and nirvana is the most profound state of consciousness, referring to a state of awakening without an object of attachment.

As the meditation training methods developed in the East have been introduced in the west, various meditation training methods have also been introduced as effective self-regulation techniques for promoting health and cope with stress, which include Transcendental Meditation, Benson's Relaxation Response Method, and Carrington's Clinical Standard Meditation Method, respectively.

In line with the development of such meditation practices, causing one to have a grateful mind has emerged as an important issue in psychology[11][12]. The recent emphasis on the concept of gratitude in psychology coincides with the rise of positive psychology. Positive psychology is a new trend in psychology which focuses on positive psychology such as individual strengths and virtues rather than negative emotions such as anxiety, depression, and stress, which was founded by Seligman of the University of Pennsylvania[13][14][15]. He began it by reflecting on the fact that the existing psychology focused only on alleviating psychological conditions which made one's life unhappy, such as treating mental illness, and did not look back on the positive values of life.

As positive psychology has emerged, studies on gratitude have actively been conducted in psychology as well. Seligman, Tayyab Rashid, and Parks (2006) claimed that if a lot of negative language is used, the learned helplessness would be demonstrated, yet if a positive language is used repeatedly, life would be full of energy[16], while Seligman & Csikszentmihalyi (2000) claimed that gratitude is the foundational attitude for successful roles in life[17].

The grateful meditation program is one which uses meditation as a means to have a grateful mind as contents, and develop such a mind. As examined earlier, the grateful meditation program is one which ought to be highly valued in that it is a program for instilling a grateful mind and in that it uses a quiet and effective method of meditation[18][19][20].

This study has examined the effects of grateful meditation programs conducted in Korea (for a total of 8 papers), and analyzed the contents of the gratitude and meditation methods set by such programs, while analyzing the relevant effects of such programs on various psychological variables. By conducting this study, it is expected that the grateful meditation program will provide the necessary information to be more systematic and widely used moving forward.

1.2. Research questions

The research questions set for this study are as follows. First, what are the contents of gratitude presented by the grateful meditation program? Second, what kind of meditation method is adopted by the grateful meditation program? Third, what is the effect of the grateful meditation program?

2. Theoretical Background

2.1. Theory of gratitude

Gratitude is among the virtues which have been treated as important in the field of religion or philosophy for a very long time[21][22][23]. The Christian Bible provides, "Give thanks for everything," which means that giving thanks for everything is very important. Talmud provides, "The wisest person in the world is a learner, and the happiest person in the world is a person who lives with gratitude."

The meaning of gratitude in Buddhism provided by "Bosaljijigyeong" is deep. There is a verse which says, "If I get something, I know about the amount and know how to be satisfied. If someone asks me, I do not disobey his or her intention, and if someone hates me and rebukes me, I would still repent and be grateful." This means that even to the person who hates and criticizes me, be grateful. It is easy to thank those who do good to me, but it is difficult to thank those who hate me. However, gratitude in Buddhism includes a deep sense of gratitude which is enough to give thanks to even those who oppose oneself.

Regarding gratitude, Thomas Aquinas said that knowing that many people have contributed to the positive results one has achieved is the key to gratitude, and Swiss philosopher Carl Hilty, in his "Theory of Happiness," says, "Be grateful and you will be young. Be grateful, then there will be progress. Be grateful, and there will be joy." This may be understood as an implicit expression that giving thanks makes the body healthy and the mind happy.

The etymological meaning of gratitude is an emotional state which expresses the characteristic or state of being grateful, and the characteristic of wanting to return a favor, and hence, the experience and expression of gratitude has been regarded as basic and desirable in terms of human character and social life[24].

The recent emphasis placed on the concept of gratitude in psychology coincides with the rise of positive psychology. Positive psychology is a new trend in psychology which focuses on positive psychology such as individual strengths and virtues rather than negative emotions such as anxiety, depression, and stress, and was founded by Seligman of the University of Pennsylvania. He began it by reflecting on the fact that the existing psychology focused only on alleviating the psychological state which made life unhappy, as seen in the treatment of mental illness, and failed look back on the positive values of life.

As positive psychology has emerged, the studies on gratitude were actively conducted in psychology. Seligman (2006) said that if a lot of negative language is used, learned helplessness symptoms will be demonstrated, yet if positive language is used repeatedly, life will be full of energy[16], Seligman & Csikszentmihalyi (2000) claimed that gratitude is the foundational attitude for successful roles in life[17].

Lazarus, R.S., and Lazarus, B.N. defined gratitude as one of the empathic emotions felt after receiving help from others, and claimed that it is based on the ability to empathize with others[25]. Weiner claimed that gratitude is an attribution dependent affective state as a result of the perception of positive outcomes and the perception that the sources of those outcomes are external. and that positive results are perceived as external[26].

McCullough, Emmons, and Tsang (2002) explain the disposition of gratitude in terms of the 4 aspects of intensity, frequency, span, and density[19]. Intensity means a person with a high disposition of gratitude is significantly grateful when he or she has a positive experience, while frequency means that a person with a high disposition of gratitude finds more things to be grateful for in the same daily life, and span means that a person with a high disposition of gratitude is very grateful for his or her life, and density means that a person with a high disposition of gratitude is grateful to more people even for the same event.

2.2. Theory of meditation

Meditation began with yoga meditation in India and developed into the Buddhist meditation. Yoga meditation is based on the yoga scriptures compiled by an Indian yogi named Pantanjali around the 2nd century BC, and is based on the state of 'concentration, a state in which the mind is completely emptied by halting and controlling the agitation of mind and where only the object emits light. The Buddhist meditation leads to nirvana through transcendence, and nirvana is the most profound state of consciousness and refers to a state of awakening without an object of attachment.

As the meditation training methods thus developed in the east were introduced in the west, various meditation training methods were introduced as effective self-regulation techniques for promoting health and cope with stress, which include Transcendental Meditation, Benson's Relaxation Response Method, and Carrington's Clinical Standard Meditation Method.

Transcendental Meditation seeks to recover body and mind from against stress and tension through the mantra meditation under the premise that there is a transcendental state which is the happiest state of consciousness other than awakening, sleeping, and dreaming. Benson's Relaxation Response Method is a meditation method for relieving stress or tension by repeatedly reciting specific words or phrases in a quiet environment and taking a comfortable posture with a passive attitude, and here, the passive posture refers to an attitude of letting go without worrying about scattered thoughts which arise during the meditation [27]. Carrington's Clinical Standard Meditation Method uses a unique type of mantra meditation, which is a method for relieving stress or tension by selecting a favorite among the 16 mantras prepared by Carrington and reciting them repeatedly [28].

According to the classification of meditation researcher and psychologist Daniel Goleman, meditation may be divided into focused meditation and insight meditation. Focused meditation is a practice of yoga tradition, whereby one intentionally pays attention to and concentrates on an object. Insight meditation focuses on inner qualities like an eagle looking down from the sky. Vipassana meditation is a notable example. This meditation has already been introduced into psychotherapy in the United States, and is also called mindfulness meditation as a psychological term. The first step of mindfulness meditation is the 'breath count.' It is useful to observe by breathing while counting. That is, count from one to ten, then return to one and repeat as such. If one does it consistently, one can focus on just breathing. Observing the state of breathing by observing the entrance and exit of the breath, and observing the motion is called 'breathing.' When walking, noticing walking is called gyeonghaengseon or sanghaengseon, and when sitting, noticing something is called jawseon, and when standing, noticing something is called juseon, and noticing something while lying down is called waseon (Park, 1997) [29]. The types of meditation and methods of meditation examined in the above are presented in a table as follows.

Table 1. Types of meditation and methods of meditation.

Classification criteria	Types of meditation	Sub classifications of meditation	Methods of meditation
Classification by purpose of meditation	Traditional meditation -Meditation of absolute and metaphysical meanings	- Kukseondo, yoga, meditation, sanyeoncheo, TM, breathing practice method, dynamic meditation method	-Meditation whose purpose is to reach the state of liberation from all human limitations
	Modern meditation - Meditation of relative and experiential meanings	-Benson's Relaxation Response Method, -Carrington's Clinical Standard Meditation Method	-Meditation whose purpose is to reach a state where one can see things in a clear, liberated, and fresh manner free of subjective prejudices and preconceived notions

Classification by method of meditation	Focused meditation	<ul style="list-style-type: none"> - Sushikkwan, Ganhwaseon, Yeombulseon, modern meditation method, comprehensive method - Danjeon breathing meditation, yoga - Benson's Relaxation Response Method, mind control, kukseondo, danhak 	<ul style="list-style-type: none"> - Meditation which focuses attention on an irrevocable single subject and subject of non-repetitive stimulus - Meditation which focuses on sensations, images, actions, and illogical problems - Comprehensive method
	Insight meditation	<ul style="list-style-type: none"> - Vipassana meditation - Mind caring meditation 	<ul style="list-style-type: none"> - Meditation which encourages one to be committed to the experience of every moment - Meditation which enables one to directly experience the characteristics of existence

Meditation is a psychological definition which emphasizes consciousness, but it may be said that it encompasses various mental and physical techniques to bring about a 'relaxation effect' in terms of mind and body medicine. Hence, studies have revealed the fact that such meditation techniques have a meaningful positive effect on the individuals in various dimensions of physical, emotional, and psychological aspects.

Soona Choi (2012) obtained significant results for the reduction of stress and stress levels such as interpersonal relationships, self problems, and school life as a result of performing meditation on middle school students[30]. Jeongeun Kim (2009) discovered the fact that self-efficacy increased and headache-induced stress decreased as a result of meditating with teachers[31]. Furthermore, meditation increased the satisfaction of life by reducing negative emotions, depression, and suicidal tendencies among high school girls (Jangseob Kim et al. 2, 2018)[32]. That is, it is apparent that meditation affects not only the emotional part but also the physical well-being. Studies in the form of a combination of meditation and various activities are also actively conducted. A study on the combination of dance motions and breathing (Sangbaek Kim, 2009)[33] and a study on the effectiveness of drawing and meditation programs (Jonghee Kim, 2009)[34] were effective in relieving psychological and physical symptoms by combining meditation with other activities. In addition to which, he reported on the effect of self-esteem and social self-esteem after performing integrated meditation for the middle school students.

2.3. Grateful meditation program

The grateful meditation program, which has traditionally been emphasized in religion or philosophy, is a program which seeks to enhance the individuals' positive emotions by intentionally and repeatedly training the grateful mind, which has recently emerged as an important research topic in psychology, through meditation, and is a program which not only develops psychology, but also facilitates social relationships.

The methods of grateful meditation include breathing (breathing meditation), repeating recitation of words or phrases (mantra meditation), recalling a scene of gratitude (visualization meditation), and using motion (motion meditation).

Breathing grateful meditation is the act of observing and examining oneself by following the breath of inhalation and exhalation, then awakening the virtue of 'gratitude,' finding gratitude in small things of daily life, and awakening the gratitude and importance of one's existence.

According to Tedeschi & Calhoun (1996), those who say words of gratitude often have more flexible thinking. Furthermore, it is noted that, when faced with difficulties, those who do are not grateful often have negative thoughts, but those who are grateful often notice that it is not worse than the current difficulties[35]. The words of gratitude have a positive effect on the

strengthening of interpersonal relationships, and through the reinterpretation of external circumstances, they change the viewpoint and express gratitude[36].

The visualization grateful meditation is a way of evoking gratitude by recalling a scene of gratitude, and the motion grateful meditation make one feel grateful by repeating eye-motions or touching a specific part of the body, sitting, standing, or walking, etc.

3. Research Method

In order to address the research problem set for this study, a domestic study which confirms the effectiveness of the grateful meditation program was first selected. Among the dissertations presented by the RISS, there are a total of 39 studies which confirmed the effectiveness of the gratitude program, among which, 5 studies include those conducted by Jinhee Yang(2008)[37], Eunjoo Kim(2010)[38], Jaeyoon Hong(2014)[39], Hyejeong Min(2015)[40], and Sojeong Yoo(2016)[41], and while the title of grateful meditation program was not used, 3 studies including the contents on grateful meditation were those conducted by Donghee Kim (2008)[42], Deoknam Seo (2009)[43], Hangseok Jo (2010)[44]. For this study, these 8 research papers have been analyzed.

In order to examine and understand the contents of gratitude presented for the first research question, in the grateful meditation program, the contents of gratitude selected for the grateful meditation program was divided into one's own body, one's own existence, family, friends, neighbors, objects, and nature, for the examination of their contents. In order to examine and understand the meditation method selected for the second research question, in the grateful meditation program, the meditation method used was divided into preparation phase, development phase, and finishing phase, and as for the methods of meditation, they were divided into grateful meditation through breathing, grateful meditation through visualization, meditation through language (mantra meditation), and grateful meditation through motion for examination. In order to examine and understand the effect of the grateful meditation program, which is the third research question, the experimental design and statistical analysis method set for the study were presented, and the results of the statistical analysis for the variables set as the dependent variables were presented, and qualitative data such as questionnaire thoughts and researcher records were analyzed in a qualitative study or a study in parallel with qualitative study.

4. Research Results

In the comparative analysis of the study on the grateful meditation program conducted in Korea, the contents of gratitude included in each program were analyzed, the method of grateful meditation used in each program was analyzed, and the effectiveness of each program was examined. Prior to which, it is intended to generally review previous studies on the grateful meditation program.

4.1. Overview of previous studies on the grateful meditation program

Table 2. Overview of the previous studies on the grateful meditation program.

Re-searcher	Title of paper	Subject of study	Implementation of program	Type of study
Donghee Kim (2008)	The Effect of gratitude program on the subjective well-being of average high school students	47 high school students	30-50 minutes per session 14 sessions in total	Quantitative study Qualitative study

Jinhee Yang (2008)	The Effect of grateful meditation on the self-esteem of middle school students	25 middle school students	30 minutes per session 12 sessions in total	Quantitative study
Deoknam Seo (2009)	The Effect of gratitude program on the children's anger control	30 elementary school students	40-50 minutes per session 10 sessions in total	Quantitative study
Hangseok Jo (2010)	A Study on the Development of Gratitude Program for Cultivation of the Disposition of Gratitude among Elementary School Students	27 elementary school students	40 minutes per session 14 sessions in total	Quantitative study Qualitative study
Eunjoo Kim (2010)	The Effect of Grateful Meditation on the Self-Esteem of Elementary School Students	23 elementary school students	10 minutes per session 12 sessions in total	Quantitative study
Jaeyoon Hong (2014)	The Development of Grateful Meditation Program for the Cultivation of Positive Emotions	24 average adults	50 minutes per session 8 sessions in total	Qualitative study
Hyejeong Min (2015)	A Study on the Emotions and Changes in Relationship via Penitential Meditation and Grateful Meditation	5 married women	90 minutes per session 8 sessions in total	Qualitative study
Sojeong Yoo(2016)	The Effect of Grateful Meditation Program on the Self-esteem and Peer Relationships among Elementary School Students	20 elementary school students	70 minutes per session 10 sessions in total	Quantitative study Qualitative study

Donghee Kim (2008) developed a gratitude program by revising and supplementing the continuous meditation program among the dongsaseob program, and the program was conducted over 14 sessions of 30-50 minutes per session for 47 general high school students (47 in the control group), and it was confirmed that the rage (5 sub-variables) of elementary school students decreased through this program[42].

Jinhee Yang (2008) developed a grateful meditation program by referring to Saedeok Oh's (2002) walking meditation and self-growth program and the experience of temple stay meditation at a temple, and the program was conducted over 12 sessions of 30 minutes per session for 25 elementary school students (25 in the control group), and it was confirmed that the elementary school students' self-esteem partially improved through this program[37].

Deoknam Seo (2009) developed a gratitude program referring to Donghee Kim's (2008) gratitude program and Kim Tae-yeon's (2006) forgiveness program, and the program was conducted over 10 sessions of 40-50 minutes per session for 30 elementary school students. Through this program, it was confirmed that the elementary school students' satisfaction of life improved, positive emotions improved, and negative emotions decreased. Furthermore, he reconfirmed the fact that it has an effect on the satisfaction of life and the positive and negative emotions by analyzing the thoughts prepared by the students participating in the program and the qualitative questionnaires performed on the pre- and post-test papers[43].

Hangseok Jo (2010) developed a gratitude program to cultivate disposition of gratitude by referring to Deborah Noville's (2008, translated by Yongnam Kim) method of using gratitude notes and Jinhee Yang's (2008) grateful meditation program. and the program was conducted over 14 sessions of 40 minutes per session for 27 elementary school students (27 in the control group), and it was confirmed that the disposition of gratitude of elementary school students was improved through this program[44]. Furthermore, it turned out that the children's mind of gratitude increased based on the gratitude notes prepared by the students who participated in the program for each session.

Eunjoo Kim (2010) revised and supplemented the grateful meditation program developed by Jinhee Yang (2008) in line with the level of elementary school students, and the program was conducted over 12 sessions for 10 minutes per session for 23 elementary school students (23 in

the control group), and it was confirmed that this program is effective in improving the self-esteem of elementary school students[38].

Jaeyoon Hong (2014) developed a grateful meditation program to cultivate positive emotions and conducted this program for 24 average adults for 8 sessions of 50 minutes per session. As part of the qualitative research method, based on the emotions expressed in the thoughts prepared by the participants, he confirmed that, as a result of the analysis performed based on the questions of the positive scale of the positive and negative emotion scale developed by Watson et al. (1988), the positive emotions of the students participating in this program were cultivated[39].

Hyejeong Min (2015) formed the penitential meditation based on the meditation she had experienced and reconstructed grateful meditation by referring to the grateful meditation program developed by Donghee Kim and Jinhee Yang (2008). Thereafter, for 5 married women, 4 sessions of penitential meditation and 4 grateful meditation sessions were conducted for 90 minutes each session, and based on the participants' questionnaires, journals, impressions, transcripts, and the researcher's records, it was confirmed that the negative emotions decreased, positive emotions increased, and the human relationships were restored[40].

Sojeong Yoo (2016) developed the character education program using grateful meditation by using the "grateful meditation" of Jaeyoon Hong (2014), "physical grateful meditation program" of Soowon Park (2005), and the "cognitive behavioral gratitude program" of Haejeong Yoon (2011), and after conducting the program for 10 sessions of 70 minutes per session for 20 elementary school students (20 students in the control group), it was confirmed that the participants' self-esteem and peer relationships improved[41]. Furthermore, by analyzing the records of teachers and researchers and the thoughts of parents and children, she was confirmed that the children's concentration improved and their emotional stability and mood control were improved as well.

Gathering the 8 studies on the grateful meditation program in terms of the type of study, it turned out that 4 of them were quantitative studies, 2 were qualitative studies, and 2 were a combination of quantitative and qualitative studies. Examining the names of the program, 5 studies used the name of grateful meditation, and 3 studies did not use the name of grateful meditation, yet the contents of the program was consisted of grateful meditation.

In terms of study subjects, it turned out that there were 4 studies targeting elementary school children, 2 studies targeting middle and high school students, and 2 studies targeting adults. Furthermore, the grateful meditation program was conducted for over a total of 8 to 14 sessions, and the duration of each session turned out to be less than 30 minutes for one, five spanned 30 minutes to less than an hour per session, and 2 exceeded 1 hour, each respectively.

4.2. Contents included for the grateful meditation program

The grateful meditation program includes gratitude for self (one's own body and one's existence), gratitude for family, gratitude for friends, gratitude for neighbors, gratitude for things, gratitude for the nature, and the contents of gratitude reported by each study were examined.

Table 3. Contents of gratitude demonstrated in previous studies on the grateful meditation program.

Re-searcher	Title of paper	Details of gratitude							
		One's own body	One's own existence	Family	Friends	Neighbors	Objects	Nature	Special remark
Donghee Kim (2008)	The Effect of Gratitude Program on the Subjective Well-being of Average High School Students	○	○	○	○	○	○	○	Na-ji-sa gratitude

Jinhee Yang (2008)	The Effect of Gratitude Program on the Self-esteem of Middle School Students	○	○	○				○	
Deoknam Seo (2009)	The Effect of Gratitude Program on the Children's Anger Control	○	○	○	○		○		
Hangseok Jo (2010)	A study on the Development of Gratitude Program for the Cultivation of Disposition of Gratitude among Elementary School Students	○	○	○		○		○	School teacher
Eunjoo Kim (2010)	The Effect of Gratitude Program on the Self-esteem of Elementary School Students	○	○	○				○	
Jaeyoon Hong (2014)	Development of the Grateful Meditation Program for the Cultivation of Positive Emotions	○	○		○	○			One's own heart
Hyejeong Min (2015)	A Study on Emotions and Changes in Relationships via Penitential Meditation and Grateful Meditation	○	○	○	○	○		○	Na-ji-sa gratitude
Sojeong Yoo (2016)	The Effect of Grateful Meditation Program on the Self-esteem and Peer Relationships among Elementary School Students	○				○			

Donghee Kim (2008) sets the contents of gratitude differently for each session, including all of one's own body, one's own existence, family, friends, neighbors, objects, and the nature [43]. What is unusual is that it includes the gratitude of “na-ji-sa,” which means the gratitude of “is the case-probably is-gratitude,” and it refers to being grateful by recalling recent events with negative emotions, objectifying them, and understanding them from another person’s point of view.

Jinhee Yang (2008) divides each part of the body (eyes, ears, nose, mouth, hands and feet, and appearance) into gratitude for each session, and further divides it into one's own existence, one's parents, and the nature (air, water, tree and soil), whereby the program was proceeded to ensure that one would have a grateful mind [37].

Deoknam Seo (2009) conducted a program to make people feel grateful for one's own body, one's own existence, family, friends, and objects around [43].

Hangseok Jo (2010) conducted a program to make people to have a grateful mind for one's own body, friends, family, neighbors, and the nature. What is unusual is that the neighborhood was divided into teachers, schools, and grateful people and divided them by session [44].

Eunjoo Kim (2010), as did Jinhee Yang (2008), divided each part of the body (eyes, ears, nose, mouth, hands and feet, and appearance) by session to be grateful, one's own existence, gratitude for parents, and the nature (air, water, wood, and soil), which were further divided by session, and the program was conducted to have a mind of gratitude [38].

Jaeyoon Hong (2014) divides gratitude for one's self by session, and includes contents of gratitude for one's own body (mind), one's own existence, one's own emotions, and one's language, and also includes gratitude for you and gratitude for us [39].

Hyejeong Min (2015) conducted a program to make people to have a grateful mind for one's own body, one's mind, one's strengths, family, friends, society, and the mother nature [40]. What is unusual is that the gratitude of “na-ji-sa” is included.

Sojeong Yoo (2016) divides one's own body's gratitude by session into eyes, ears, nose, mouth,

chest, hands, and feet, and the feeling of gratitude for neighbors is added there [41].

Examining the contents of gratitude selected for the previous studies on the grateful meditation program, the gratitude for one's own body is included for all studies, followed by one's own existence (7), family (6), and neighbors, (5). nature (5), friends (4), and objects (2), respectively. It is unusual that 2 are also included for the gratitude of "na-ji-sa."

4.3. Method of meditation used for the grateful meditation program

The method of meditation used for the grateful meditation program was divided into the preparation phase, development phase, and the finishing phase of the program for examination. The meditation method may generally be summarized into the medication through breathing, meditation through visualization, meditation through language (mantra meditation), and motion.

Table 4. Phased in method of meditation used for previous studies on the grateful meditation program.

Researcher	Title of paper	Method of meditation		
		Preparation phase	Development phase	Finishing phase
Donghee Kim (2008)	The Effect of Gratitude Program on the Subjective Well-being of Average High School Students	Breathing meditation	Visualization meditation	(Sharing of thoughts)
Jinhee Yang (2008)	The Effect of Gratitude Program on the Self-esteem of Middle School Students	Breathing meditation	Visualization meditation Motion meditation	Visualization meditation Motion meditation Mantra meditation
Deoknam Seo (2009)	The Effect of Gratitude Program on the Children's Anger Control	-	Visualization meditation	(Sharing of thoughts)
Hangseok Jo (2010)	A Study on the Development of Gratitude Program for the Cultivation of Disposition of Gratitude among Elementary School Students	(Motivation via stories)	Visualization meditation (Preparation of gratitude notes)	Mantra meditation
Eunjoo Kim (2010)	The Effect of Gratitude Program on the Self-esteem of Elementary School Students	Breathing meditation	Visualization meditation	Motion meditation Mantra meditation
Jaeyoon Hong (2014)	Development of the Grateful Meditation Program for the Cultivation of Positive Emotions	Breathing meditation	Visualization meditation Mantra meditation Motion meditation	(Sharing of thoughts)
Hyejeong Min (2015)	A Study on Emotions and Changes in Relationships via Penitential Meditation and Grateful Meditation	Breathing meditation Yoga meditation	Visualization meditation Mantra meditation Motion meditation	Motion meditation (Preparation of meditation journals)
Sojeong Yoo (2016)	The Effect of Grateful Meditation Program on the Self-esteem and Peer Relationships among Elementary School Students	Breathing meditation	Mantra meditation Motion meditation	Sharing of thoughts

Note: Deoknam Seo did not present the gratitude program on a phased in basis (2009).

Donghee Kim (2008) conducted the preparation phase with breathing meditation as a method of meditation, and developed it primarily by using the visualization method which recalls a scene of gratitude[42]. In the finishing phase, he did not take the form of meditation, yet finished by sharing thoughts. In particular, he includes a session which focuses on "na-ji-sa" meditation during the session, and it is a meditation method which makes one feel grateful 'notwithstanding which.'

Jinhee Yang (2008) carried out breathing meditation in the preparation phase and used visualization and motion meditation to remind people of things to be grateful for in the development phase, and in the finishing phase, visualization meditation, mantra meditation, and movement meditation such as eye exercise and ear touching were performed[37].

Deoknam Seo (2009) did not present the gratitude program by phase, yet primarily used the visualization method to recall the scene of gratitude as a meditation method, and in the finishing phase, he did not take on the form of meditation, yet finished it up sharing thoughts[43].

Hangseok Jo (2010) did not use the meditation method in the preparation phase, yet caused motivation by story telling, used the visualization method to recall the things to be grateful for in the development phase, then made them prepare gratitude notes. and in the finishing phase, the method of mantra meditation was used to express the words of 'Thank you for XXX' [44].

Eunjoo Kim (2010) used the visualization method to recall things to be grateful for in the development phase to begin with, followed by the meditation through breathing in the preparation phase, and used the method of meditation through motions such as eye-exercise or ear-touching in the finishing phase, finishing it up with words of affirmation via the mantra meditation[38].

Jaeyoon Hong (2014) used an appropriate mix of the visualization method which reminds one of something to be grateful for in the development phase to begin with, followed by the meditation through breathing in the preparation phase, and the mantra method of feeling the words of 'Thank you,' and the motion meditation, finishing it up with the sharing of thoughts[39].

Hyejeong Min (2015) conducted the breathing meditation and yoga meditation in the preparation phase, visualization meditation, mantra meditation, and motion meditation in parallel in the development phase, and in the finishing phase, finished it up with the sharing of thoughts and the preparation of a meditation journal[40]. She specifically includes sessions using the meditation of "na-ji'sa" during the sessions.

Sojeong Yoo (2016) conducted the breathing meditation in the preparation phase, mantra meditation and motion meditation in the development phase, and finished it up by sharing thoughts in the finishing phase[41].

Gathering the meditation methods of the grateful meditation program presented thus far, in the preparation phase, the meditation through breathing is generally used, and in the development phase, meditation through visualization, meditation through language (mantra meditation), and motion meditation are appropriately used in parallel as it is apparent. In the finishing phase, visualization meditation, motion meditation, mantra meditation, and sharing of feelings which did not take on the form of meditation were the most, respectively.

4.4. Effect of the grateful meditation program

In order to examine and understand the effect of the grateful meditation program, the experimental design and statistical analysis method set for each study were presented, and the results of statistical analysis of the variables set as dependent variables were presented, and in the qualitative study, the results of analyzing qualitative data such as questionnaire thoughts and researchers' records were briefly presented.

Table 5. Effect of the grateful meditation program.

Re-searcher	Title of paper	Experimental design and the method of statistical analysis	Effect of program
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Donghee Kim (2008)	The Effect of Gratitude Program on the Subjective Well-being of Average High School Students	Design of experimental control group Covariate analysis	Satisfaction of life Positive emotions Negative emotions	F= 19.4*** F= 16.8*** F= 14.5***
Jinhee Yang (2008)	The Effect of Gratitude Program on the Self-esteem of Middle School Students	Design of experimental control group Analysis of repeated measure variance	General self-esteem Social self-esteem Family related self-esteem School related self-esteem	F= 7.79** F= 1.75 F= 9.06** F= 3.80
Deoknam Seo (2009)	The Effect of Gratitude Program on the Children's Anger Control	Design of single group Repeated measurement t-test	State anger Attribute anger Suppression of anger Expression of anger Anger control	t= 2,88** t= 2,68* t= 2,73* t= 3.74*** t= 3.25**
Hangseok Jo (2009)	A Study on the Development of Gratitude Program for the Cultivation of Disposition of Gratitude among Elementary School Students	Design of experimental control group Repeated measurement t-test	Disposition of gratitude	t= 5.11***
Eunjoo Kim (2010)	The Effect of Gratitude Program on the Self-esteem of Elementary School Students	Design of experimental control group Analysis of repeated measure variance	Self-esteem	F= 13.48***
Jaeyoon Hong (2014)	Development of the Grateful Meditation Program for the Cultivation of Positive Emotions	Analysis of words of thoughts	Positive emotions	Confirmed by qualitative study
Hyejeong Min (2015)	A Study on Emotions and Changes in Relationships via Penitential Meditation and Grateful Meditation	Analysis of questionnaires, journals, thoughts, researchers' records, and transcripts	Negative emotions Positive emotions Interpersonal relationships	Confirmed by qualitative study
Sojeong Yoo (2016)	The Effect of Grateful Meditation Program on the Self-esteem and Peer Relationships among Elementary School Students	Design of experimental control group Covariate analysis	Self-esteem Peer relationships	F= 347.2*** F= 753.5***

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

Donghee Kim (2008) conducted the gratitude program by designing an experiment-control group for 47 high school students (47 people in the control group), and presented the results by the covariate analysis. In the study, the satisfaction of life set as a dependent variable improved ($F = 19.4$, $p < .001$), positive emotions were improved ($F = 16.8$, $p < .001$), and negative emotions were decreased ($F = 14.5$, $p < .001$) [42], respectively.

Jinhee Yang (2008) conducted the grateful meditation program for 25 middle school students (25 students in the control group) by designing an experiment-control group, and presented the results by the repeated measures analysis of variance. Self-esteem ($F = 7.79$, $p < .01$) and family self-esteem ($F = 9.06$, $p < .01$) significantly improved, yet social self-esteem and school self-esteem did not significantly improve ($F = 9$, respectively). 1.75 , $p > .05$; $F = 3.80$, $p > .05$) [37].

Deoknam Seo (2009) conducted the gratitude program based on a single group design for 30 elementary school students, and presented the results by the repeated measurement t-test, and state anger ($t = 2.88$, $p < .01$), characteristic anger ($t = 2.68$, $p < .05$), anger suppression ($t = 2.73$, $p < .05$), anger expression ($t = 3.74$, $p < .001$), and anger control ($t = 3.25$, $p < .01$), which were set as dependent variables in the study, all demonstrated significant effects [43].

Hangseok Jo (2010) conducted the gratitude program by designing an experiment-control group for 27 elementary school students (27 in the control group), and presented the results by the repeated measurement t-test, which was set as a dependent variable for the study, and it turned out that the disposition of gratitude was significantly improved ($t = 5.11$, $p < .001$) [44].

Eunjoo Kim (2010) conducted a grateful meditation program by designing an experimental-control group for 23 elementary school students (23 students in the control group), and presented the results by the repeated measures analysis of variance, and it turned out that the self-esteem set as the dependent variable for the study was significantly improved ($F = 13.48$,

$p < .01$)[38].

Jaeyoon Hong (2014) conducted a grateful meditation program for 24 average adults and based on the questions of positive and negative emotion scales developed by Watson et al. (1988) based on the emotions expressed in the thoughts prepared by the participants, and as a result of the analysis performed, he reported that the positive emotions of the students participating in this program were cultivated[39].

Hyejeong Min (2015) conducted devastating meditation and grateful meditation for 5 married women, and based on the questionnaires, journals, thoughts, transcripts, and records of the participants, he reported that negative emotions decreased and positive emotions increase, while human relationships were restored[40].

Sojeong Yoo (2016) conducted the grateful meditation program based on an experimental-control group design for 20 elementary school students (20 students in the control group), and presented the results by the covariate analysis, and it turned out that the self-esteem set as a dependent variable for the study was improved ($F=347.2$, $p < .001$), and peer relationships improved ($F=753.5$, $p < .001$)[41].

Gathering the effects of the grateful meditation program reported by the previous studies, excluding the 2 sub-variables (social self-esteem and school related self-esteem) among the self-esteem related sub-variables set as dependent variables in Jinhee Yang (2008)'s study, it is apparent that the grateful meditation program is effective for all the dependent variables (satisfaction of life, positive and negative emotions, self-esteem, anger, disposition of gratitude, and interpersonal relationship) set in the 8 studies. Hence, the grateful meditation program is a powerful program which promotes cognitive, emotional, and behavioral changes for the participants.

5. Discussion and Conclusions

This study has examined the effects of grateful meditation programs conducted in Korea (for a total of 8 papers), and analyzed the contents of the gratitude and meditation methods set by such programs, while analyzing the relevant effects of such programs on various psychological variables. To achieve this purpose, among the dissertations in Korea (a total of 39) confirming the effectiveness of the gratitude program, the study with the name of grateful meditation (total 5) and the name of grateful meditation were not used, yet a total of 8 dissertations were selected and analyzed including the studies whose contents were grateful meditation (for a total of 3).

The study results are as follows. First, it turned out that the contents of gratitude selected for the previous studies on the grateful meditation program was the most for gratitude for one's own body (8), existence (7), family (6), neighbors (5), nature (5), friends (4), and objects (2), respectively. Second, as for the meditation method adopted for the grateful meditation program, in the preparation phase, meditation through breathing has generally been used, and in the development phase, meditation through visualization, meditation through language (mantra meditation), and motion meditation have been used in combination, while in the finishing phase, visualization meditation, motion meditation, mantra meditation, and sharing of feelings which did not take on the form of meditation were the most, respectively. Third, gathering the effects of the grateful meditation program, it turned that it was effective across all dependent variables (satisfaction of life, positive and negative emotions, self-esteem, anger, disposition of gratitude, and interpersonal relationship) set in 8 studies. Hence, the grateful meditation program is a powerful program which promotes cognitive, emotional, and behavioral changes for the participants.

What ought to be discussed in generalizing such analytical results is that there is a limit to generalization in that only 8 studies have been analyzed for this study. In this study, all of the

dissertations on the grateful meditation program were selected from among the dissertations presented by the RISS, and while there were also a few papers reported in the academic journals, they could not be selected since there was no specific information about the program.

The following implications were acquired from undertaking this study. First, the future grateful meditation program ought to change the contents of the gratitude according to age. When targeting the relatively younger children, the contents of gratitude ought to be set at the specific level of individual, and when targeting high school students or adults, it ought to be internalized at the abstract level of the individual's attributes. Second, the method of meditation ought to also change according to age. It would be best if mantra meditation, visualization meditation, and motion meditation are primarily used for the relatively younger children, and breathing meditation, yoga meditation, and "na-ji-sa" meditation would be good for adults including high school students. Third, the contents of gratitude or the method of meditation ought to be changed according to the dependent variables to be improved through the grateful meditation program. In particular, when the dependent variables are relatively complex variables, the contents of gratitude ought to be diversified and the method of meditation ought to be used comprehensively. Fourth, if the 'time of consideration for myself' is preceded by the grateful meditation's preparatory program for palpating one's cognition, emotions, and actions, it would be possible to proceed more effectively and in depth during the development phase of grateful meditation.

The grateful meditation program is a powerful program for promoting cognitive, emotional, and behavioral changes for the participants, and hence, it will be widely used moving forward, and a more systematic program will be developed to address the problems of stress, anxiety, and alienation for the modern people. Furthermore, by combining such grateful meditation program with other programs, such as kokseondo meditation, yoga meditation, zen meditation, and danhak meditation, the program could further develop and proceed even more effectively.

6. References

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7. Appendix

7.1. Authors contribution

	Initial name	Contribution
Lead Author	HJ	-Set of concepts <input checked="" type="checkbox"/>
		-Design <input checked="" type="checkbox"/>
		-Getting results <input checked="" type="checkbox"/>
		-Analysis <input checked="" type="checkbox"/>
		-Make a significant contribution to collection <input checked="" type="checkbox"/>
		-Final approval of the paper <input checked="" type="checkbox"/>
Corresponding Author*	DL	-Corresponding <input checked="" type="checkbox"/>
		-Play a decisive role in modification <input checked="" type="checkbox"/>
		-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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A Study on Confucius' Dialogue in the Analects and Application to Coaching 5 Steps Models: Exploring Value-Oriented Coaching Learning

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Abstract

Purpose: According to the needs of the times, the role and ability of the facilitator to help learners demonstrate their abilities as coaches in the education field is being emphasized. Coaching is helping coach and coachee through interaction with each other and helping growth. Coaching is conducted by applying various skills such as motivation for learning, effective questions, and feedback. Therefore, in order for coaching to be well done, it is necessary to approach according to the opponent and special coaching skills is needed. We try to find the answer in the conversation between Confucius and his disciples, who pursued change and growth.

Therefore, the purpose of this study is to find out whether the Confucius coaching dialogue method and the coaching 5 STEPS model in 『The Analects』 can be applied as a 'coaching learning method' and to find a value-oriented education method.

Method: Confucius was not a knowledge transfer education method but a comprehensive humanistic wisdom, and was the leader in receiving and cultivating humanistic wisdom. It is worth discussing what Confucius' story in Analects is giving meaning to the current era in relation to the theme of value-oriented coaching learning method, and the researcher reconstructed and conducted the 5-step model of CMOE coaching among various coaching learning methods. The contents and methods of this study were analyzed by the four elements of the coaching 5 STEPS model based on the conversation method in the argument: question, listening, recognition, and feedback. And the coaching 5 STEPS model proceeded with step-by-step support, topic confirmation, accident expansion, solutions, and action check.

Results: Confucius in 『The Analects』 gives different answers to the same question by grasping the dispositions, attitudes, and academic maturity of his disciples through questions and answers through active listening. We provide feedback with recognition and praise through education tailored to the level of our students. And we enjoy learning together, and we lead our disciples to change and grow by reflecting through learning. As such, Confucius' dialogue method combines the coaching five-step model to show the applicability of today's coaching learning methods. In other words, in an era of limitless competition and uncertainty, it answers the questions of how to study and how to teach, and guides the way to find a value-oriented educational method that makes learning enjoyable.

Conclusion: Through this thesis, Confucius' dialogue method can be applied to coaching education, and it suggests a way to find a value-oriented education method by answering the learning method suitable for the times. In addition, Analects are reinterpreted beyond the scope of classical texts, indicating that education suitable for the modern paradigm is possible.

[Keywords] Conversation Method of Confucius, Confucius in Analects, Coaching, Coaching Learning, 5-Step Model

1. Introduction

The fourth industrial revolution era education should be created and constructed beyond

knowledge transfer, and the subject of education should be reorganized into student-centered stay rather than teaching-centered. The purpose of this study is to find out the coaching conversation method of Confucius in the Analects, which synchronizes change and growth desire according to the education according to the needs of the times, and to seek a value-oriented education method with 'coaching learning'. The education field of this era, called the digital revolution, is also changing rapidly, and the core of education is learner-centered. Learner-centered education is to enable learners to actively participate in the learning process and to interact smoothly between the teaching and the student, and to make self-directed learning happen. In addition, the professor recognizes the individual diversity of learners, believes in possibilities and potentials, and encourages them to do their best[1].

In the field of education, there have been various previous studies on the study of learner-centered instruction[2] and centered education. As a study on the activation of learner-centered instruction, investigated the attributes and principles of learner-centered education, analyzed the professors perceptions on importance and performance of learner-centered education[3][4][5][6]. also in order to activate the application of learner-centered instruction. Changes in space and internal institutional support projects led to performance[7].

The analysis of the 10 core competencies presented by the World Economic Forum shows that learners have critical thinking, creativity, problem solving, collaboration ability, personality, and social and emotional skills in super-connected society. In the meantime, our learning has been biased towards memorizing given content. In response to these demands of the times, the researcher started research by contemplating how to let learners live harmoniously with artificial intelligence, live a human life, and enjoy learning through self-directed learning.

In the meantime, it has been interested in the paradigm constructionist learning philosophy of the 21st century by practicing various teaching methods. In interaction, learners who are able to construct knowledge and perform dynamics tend to pursue their own learning objectives.

The diversity of learners and individualized instruction were provided, but it felt insufficient. In order to close the gap, we want to find the answer in the educational building containing the wisdom of Confucius, who attempted individualized learning that is closely related to today's constructivist learning methods. The present is the future of the past, and the future is the future of the present. In order to understand the present, we need to know the past and know the present to know the future. Therefore, we want to find a way in the dialogues and attitudes of Confucius, one of the saints who helped everyone use the truths learned.

Analects is a "hermeneutic flexibility" and has been widely used and interpreted in various ways by differences in perspectives according to the times. On the other hand, today's Analects is recognized as a hard classic and only as a book to be read. However, if we recognize the difference and look at it as a window of thought, we can form a consensus beyond the times and the scope of use as a modern text , it can be widely handled.

Learning that started with the first word of the Analects, and taking that learning as the starting point of life, we are asking how wisdom and learning beyond knowledge should change our lives and the world, and how to study in the age of infinite competition. In addition, it provides directions on how to teach so that enjoyable learning occurs.

Confucius, as the coach required by coaching learning, is leading his students to grow by solving real problems and reflecting on their potential by asking and answering questions [8][9][10].

The purpose of this study is to search for applicability and value-oriented education methods as a 'coaching learning method' based on Confucius's coaching dialogue method and coaching 5 STEPS model in 『The Analects』 .

The difference from the previous studies that mainly dealt with the analysis of Confucius'

dialogue method is the new attempt in connection with coaching and coaching learning.

2. Theoretical Background

2.1. Understanding confucius and the analects

Confucius (551 B.C. - 479 B.C.) was a great thinker and saint who was revered as an educator as a person who compiled Confucianism. He is also called Gong and his first name is Gu.

The Analects consists of the words of Confucius, the dialogue between Confucius and his disciples, and the dialogue between Confucius and a politician, and is an important scripture in Confucianism.

The Analects consists of a total of 20 parts, and the title of each chapter is not divided according to a specific system or content[11]. The title of Analects is based on the letter of the first passage of the chapter. The 20 pieces of the titles were listed in order, and the title and the composition paragraph are as follows <Table 1>.

Table 1. The 20 pieces of the titles.

Number	Contents	Number	Contents	Number	Contents
1	Haki 1-16	8	Taebaek 1-21	15	Weryenggong 1-41
2	Weejung 1-24	9	Jahan 1-30	16	Gyessi 1-14
3	Palil 1-26	10	Hangdang 1-18	17	Yanghwha 1-26
4	Leein 1-26	11	Sungjin 1-25	18	Mijee 1-11
5	Gongyajang 1-27	12	Ahnyeon 1-24	19	Jajang 1-25
6	Yongya 1-28	13	Jaro 1-30	20	Yowal 1-3
7	Solee 1-37	14	Hyunmoon 1-47		

Note: The 20 analects of confucius were written in order.

The main contents are classified into lessons on individual cultivation, lessons on social ethics, political thought, educational thought, and contents about Confucius' daily life. Confucius's ideas have a great influence on East Asian culture and value formation.

Even today, it is common to see words or writings expressing one's thoughts and arguments by quoting a passage or sentence from the Analects. It is still affecting people's lives 2,500 years later, and you can see that the universality resonates with people.

In addition, Analects is a "hermeneutic flexibility" and has been widely used and interpreted in various ways by differences in perspectives according to the times. If so, it is worth discussing what Confucius' story in Analects gives meaning in this era in relation to the theme of value-oriented coaching learning method.

So, Confucius' discourse has feelings and beliefs based on sincerity and integrity, and through this, the disciples can reflect on themselves and practice them[8][9][10].

For this reason, this study tries to examine the discourse of Confucius and disciples in the analects of Confucius and the teaching method of modern coaching together.

2.2. Understanding coaching and coaching learning

Coaching is based on a positive view of human beings, with an interest in customer change and growth, exploring the present, planning the future, and looking at it. It is defined as a partnership process that maximizes the potential by paying attention to customer change and growth, and grows into a leader who leads his life[12][13][14][15].

The Korean Coach Association defines coaching as a horizontal partnership that helps people and organizations maximize their potential and realize their best values [16].

Coaching is aiming to stimulate new perspectives, gain insight, and focus on positive character and potential to find innovative possibilities[17]. Coaches are a relationship that cooperates with coaches to help them find and maximize their potential and to help them achieve their goals through a relationship called coaching. So coaching is getting more attention because it finds out the potential strengths inside of oneself and grows the ability to solve their own problems[18].

On the basic philosophy that is important in coaching learning, Hidetake Enomoto says in *Magical Coaching*: "First, there is an infinite possibility for everyone, and second, every response he needs is in it, and third, he needs a partner in the process of finding answers" [19]. Recently, the interest in coaching has been increasing as a direction to grow with coaches and coaching customers. According to these times, coaching programs have been opened at each university and graduate school, and education is actively being conducted [20][21][22][23][24].

A learning coaching program was conducted to improve students' self-directed learning ability, and the components were classified into motivational factors, cognitive factors, and behavioral factors. The self-directed learning ability development program has improved self-directed learning ability and can be helpful in nurturing talents with positive self-concept and self-responsible leadership [25].

Through in-depth exploration of the experiences of college students who are experiencing academic difficulties and self-regulation and control through learning coaching, there were effects of improving academic achievement and emotionally stabilizing students [26].

It is expected that the expansion of the coaching program will help the settlement and spread of coaching for college and undergraduate students, and suggests the direction of college coaching education for the development and operation of college coaching education [20][21]. Through the preceding studies, coaching learning is to help instructors motivate learners, draw potential, and help them solve problems and learn through interactions [27][28].

3. Coaching Learning Method as Known in the Analects of Confucius

3.1. Confucius' teaching and principles of learning

Confucius established the first private school in the East and as the first teacher, the goal of education was to aim for human (love for human beings first) and 'Gunja=Junji' (successor of character - character) as the core ideas.

Confucius answered the question of his disciple Jaro(Zilu) saying, "The Junji is a 'Sugianin' (the person-self-cultivation to make others comfortable)." The qualities of "Junji" are benevolent, humanity, wisdom and courage (with the heart of loving a person, there is no anxiety, and with the ability to discern Sari, there is no fear.) <Table 1. 14-45>.

The trust of the disciples in Confucius was absolute: the spirit of the 'Suganin' has a great influence on others, and is the charm and power that leads the early connection era today. The instructor, the learning coach, should be at the center of it.

Although Confucius lived in a hierarchical society, he expanded education for the common people, providing them with opportunities to learn without considering their high and low status. There was no discrimination in education. <Table 1. 15-38> Confucius said, "I didn't make any distinctions when I was teaching. Even if it was a bundle (minimum unit) of dried fish for learning, if I brought it for politeness, I received it politely. <Table 1. 2-17> As a good coach, Confucius respected and accepted those who tried to learn without prejudice.

On the other hand, "If there is no effort, you will not lead, if you do not have the will to learn, you will not speak, if you do not respond from one corner to three, you will not speak." <Table 1. 7-8>. It was a teaching to allow the disciples to move with passion voluntarily.

Confucius grasped and understood the disciple's nature, gave different answers to the same question through dialogue, and gave individual teachings[9][10][29].

When Jaro(Zilu), who is impatient, asks, "Should I act upon hearing," Confucius answered, "How can I act quickly when my parents and older brother are here? <Table 1. 11-21>. He taught me to take it slow and not rush.

On the other hand, Confucius gave a different answer to Yeom-yu, who was passive and hesitant. "You have to act as soon as you hear it." <Table 1. 11-21>. Yeom-yu was given guidance to move forward actively.

The following is the description of the ability and advantages of ten outstanding disciples in each aspect of the disciples in four types individually. "There were Anyeon, Minjagun, Yeom-baekwoo, and Junggung in Deokhaeng and Jaea and Ja-gong in language (language expression), and there were Yeom-yu and Gyero in Jeongsa (political relation), and Jayu and Jaha in literature <Table 1. 11-2>.

On the other hand, to Jaro(Zilu), who had the determination and drive, but had the weakness of pretending to know, "Jaro, I will tell you what it means to know. To say that you know what you know and say you do not know what you do not know is what you truly know." <Table 1. 2-17 > He gave me a true teaching to not be ashamed of what I didn't know, but to admit it honestly and fill it in.

Confucius paid attention to listening and conversation, grasped the characteristics of the disciples, and customized education tailored to the student's eye level. Confucius's teachings were a process of growing one step at a time, not stagnating in the present state: Confucius "taught me to learn from the low and reach the top." <Table 1. 14-37>. In this way, the teachings and learning of Confucius set the value of the ideal as the goal and made him strive.

Confucius said in Chapter 1 of the Analects about learning, "If you learn at the right time and learn it physically, wouldn't it be really pleasing?" <Table 1. 1-1>.

The study set the above value as a goal and made efforts. Confucius is a joyful expression of emotion that comes from learning something and learning something by oneself when learning in the first chapter of 'The Analects' in learning.

Learning makes us feel joy and fun and interest by learning knowledge and wisdom, and practice occurs through self-directed exploration and inquiry. When studying with the body rather than memorizing is a good result, joy is increased and continuous learning is possible. In other words, it means that self-directed learning, voluntary study, and that it becomes the driving

force and can continue studying.

“The learning of the old is for oneself; the learning of the people these days is for others.” <Table 1. 14-25> is not a high-level study of test scores to show others. It is the pleasure of learning to change the world because my knowledge and personality can help the world by achieving my growth through self-directed inquiry and application.

3.2. Coaching learning method of Confucius and coaching 5 steps model

This study is to examine the matching of Confucius' teaching and learning with 5 step model among various methods of modern coaching learning. The 5-step model of the CMOE[30] can be seen as support- confirm topic-expansion-action plan-sustain and support <Figure 1>.

Figure 1. The 5-steps coaching models and 5 coaching skills.



Note: Cmo's five-step coaching model modified by researchers.

The most important thing about coaching is that everyone has unlimited potential, the answers they need lie within that person, and they need a partner to find them[19]. Coaches show partnerships so that they can support and solve problems.

Confucius can see that modern coaching techniques are already being implemented to his disciples B.C. 2500 years ago. Among the representative examples, the following are analyzed educational cases that enable listening and question support recognition praise feedback to practice through self-reflection. Confucius identified the characteristics of his disciples through dialogue, attitude, and questions, and Confucius gave a step-by-step growth in the aspect of teaching method, reflecting on customized education tailored to the student's eye level[8][9][10].

Confucius praised, recognized, and esteemed the abilities of his disciples.

Speaking of his disciple, Jaro, he said, "I am next to a person who wears luxurious clothes made of fox or silky skin, but I do not feel ashamed at all. It is good not to harm others and not covet others." <Table 1. 9-26> He praised Jaro's simplicity and showed his affection.

To the disciple Ahn-Hui, who tries to learn and enjoys learning even in a poor life, "He has a kind heart. "He drinks rice and water from a colander and lives in a barren place, but she is very

kind to overcome anxiety and enjoy learning." <Table 1. 6-9>. As for the disciples Yeom-ong who lacked the skill of speaking, he praised the character and virtue of " <Table 1.6-1>. " as "Yeom-ong has the qualities to rise to the wage position and rule the people". For Zaha, who is excellent in literature, he praised his talent and ability as "You can speak out of poetry" and "<Table 1. 3-8>".

Confucius, as a coach, continued and actively paid attention to his students, praised them and gave positive feedback. The instructor should also be a learning coach, a awake observer, and a learning partner for students.

Confucius said, "When I see a kind person, I think to be like that person, and when I see a person who is not kind, I reflect on myself."<Table 1. 4-17>. I've been taught by Confucius, who has enjoyed learning in reflection Confucius' disciples showed their abilities with their desired occupations such as defense, economy, administration, politics, diplomacy, scholarship, and literature in accordance with their characteristics.

In the book 『 Yeg 』 , there is a saying that teaching and learning grow each other[31]. This indicates that today's coach and coach relationship, and the relationship with the teaching-learning person are also mutually growable.

Also, the most important thing in coaching conversations is empathy. Coach and coachee should have trust in each other. Empathy connects people and people's thoughts and allows them to form trust in each other. What is shown is the teaching and learning of Confucius and his disciples in the dialogues. Confucius sympathizes with his disciples in conversation based on sincerity and integrity[8].

In coaching, the coach does not have the theme of coaching, but the person who is coaching. Generally, people empower their opponents through 'praise', 'encouragement', and 'recognition'. While praise is a reward for a result and encouragement is centered on the process, recognition is centered on the existence of a person. This is because the theoretical basis of coaching is shown in Confucius' teaching and learning. Confucius and disciples' conversation in the argument is limited to say that they reproduce modern coaching skills in a complete manner. However, the absolute trust between Confucius and his disciples is consistent with the most important trust formation of coach and coachee that are paying attention in these days. In addition, in all conversations, listening and encouraging open question support can be done by self-reflection through expansion of thinking plan[9].

4. Results and Conclusions

4.1. Results

The purpose of this study is to search for applicability and value-oriented education methods as a 'coaching learning method' based on Confucius's coaching dialogue method and coaching 5 STEPS model in 『The Analects』 .

Analects are widely used as 'hermeneutic flexibility' and are interpreted and edited in various ways by differences in perspectives.

It is worth discussing what Confucius' story in Analects is giving meaning to the current era in relation to the theme of value-oriented coaching learning method, and the researcher reconstructed and conducted the 5-step model of CMOE coaching among various coaching learning methods Confucius teaching and learning in the Analects, which is closely related to the paradigm constructivism learning method in the 21st century, is in the same context as today's learner-centered education and self-directed learning.

The results of this study are summarized into five categories as follows.

First, learning started with the first word in Analects means that learning is a study learned by the body and that it is possible to study voluntarily because it feels joy and fun in the process and that it becomes the driving force and continue studying. It is the pleasure of learning to change the world because my knowledge and personality can help the world by achieving my growth through self-directed inquiry and application.

Second, the power to think more important than knowledge contains the core competencies of the talents required by this era. Confucius said, "If you only learn and don't think, you are empty; if you only think and don't learn, you are in danger." <Table 1. 2-15>. Memorizing learning without thoughts is an expression that is wary of being at stake because learning is not used and falls into one's own thoughts. When learning, we have insights that can penetrate things with sharp eyes. Learning adds depth and breadth through thought. Critical reasoning is possible when the thinking power that can be inferred from such various perspectives is connected to the question[32]. The problem solving ability is improved because it can grasp and analyze problems in new situations in various ways based on creative thinking[29].

Third, Confucius in Analects has been actively listening to the students to understand the characteristics of the students as questions and answers, Even for people with the same concerns, counseling should be different depending on individual attributes such as personality and constitution[33]. This is only possible if we fully understand each individual's individuality and diversity. You can see how Confucius listened to and said the questions of his disciples and led the change of perspective by suggesting alternatives. Corresponds to steps 1 and 2 of the coaching 5-STEPS model, consistent with active listening and open-question skills.

Fourth, Confucius' core idea is to set the goal of education that aims to be human (a love for human beings first) and 'a good person' (a completer of character). So Confucius reminds us of how to live with universal value as a person, which corresponds to the third stage of the coaching 5-STEPS model. Confucius fosters mutual growth through teaching and learning, and pursues lifelong learning as a learning partner[31].

Fifth, in the Analects, the excellent ten disciples in each aspect of the disciples praise the individual abilities and advantages of each disciple in four types. It is positive feedback in the 4th and 5th stages of coaching, and it can be seen that the students acknowledge their ability and continue to support them with praise[1][10][20].

The dialogue between Confucius and his disciple Jaro(Zilu) was examined from the perspective of feedback, How the feedback affected Jaro's learning for growth as a human being, Confucius' feedback on Jaro was analyzed in terms of recognition, advice and evaluation. It was explained by inferring that learning for continuous growth occurred through the process of asking [feedback] and answering [feedback][34].

If you look at the conversation records of Jaro and Confucius appearing in the Analects, there are many forms of questioning. Jaro, a disciple, often appears as the subject of feedback, and it can be inferred that learning for continuous growth was achieved through the process of asking [feedback] and answering [feedback] like this between the teacher and the disciple.

4.2. Conclusions

Through this study, Confucius lived in a social class and expanded education to ordinary people, giving them the opportunity to learn without considering the return of their status. "And they didn't distinguish it when they taught it." <Table 1. 1-38> . The content of education was a genuine educator without discrimination and played a role as a learning leader. Confucius in the Analects solves and reflects on reality and leads his disciples to change and grow with each other.

Since the present time is different from the days of Confucius who lived with his disciples, the education on how to communicate with his disciples and Confucius cannot be applied as it is.

However, the teacher should observe the characteristics of the learner as much as possible, and focus on the harmony of serious conversation time and autonomous growth so that they can develop not only in academics but also in life [35].

Because Confucian teachings prioritized actions and actions over words, Confucius was always consistent in his words and actions [36]. Behavior has been exemplary for students, and coaches can be seen playing the coach's role in absolute mutual trust.

Therefore, through this study, Confucius' Dialogue method shows the applicability of today's coaching learning method, suggests a way to find a value-oriented educational method by answering the study method in an era of unlimited competition and uncertainty, and teaches to learn.

The Gunja that Confucius wanted is also in line with today's ideal of a person. <Table 1.26-12> We aim to become a convergence talent who can create new things from a new perspective, rather than becoming a vessel that can contain only one material. In addition, emphasis was placed on the perfection of personality by harmonizing the inside and the outside <Table 1. 6-16>.

It is meaningful that B.C. 2,500 years ago, Analects broke out of the scope of classical texts and formed a universal consensus beyond the times, and rediscovered its value in the field of usefulness and learning coaching as a modern text. It is suggested that the research will be advanced by connecting the new educational paradigm with various academic fields in coaching field.

On the other hand, since this thesis is published in English, there is a limitation that Chinese characters and comments cannot be combined according to the name structure of the source 'Analects'.

In the case of East Asia and cultures that mainly use Chinese characters, it is expected that there will be some difficulty in understanding the meaning of the text of the Analects because there are no annotations. Therefore, in order to overcome the problem, the source of the original text is provided in <Table 1>, so please refer to it.

In addition, people's names and idioms (ex: Sugianin, Gunja, etc.) were written in Korean, and we tried to explain terms and concepts as easily as possible.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Author	NJ	<ul style="list-style-type: none"> -Set of concepts <input checked="" type="checkbox"/> -Design <input checked="" type="checkbox"/> -Getting results <input checked="" type="checkbox"/> -Analysis <input checked="" type="checkbox"/> -Make a significant contribution to collection <input checked="" type="checkbox"/> -Final approval of the paper <input checked="" type="checkbox"/> -Corresponding <input checked="" type="checkbox"/> -Play a decisive role in modification <input checked="" type="checkbox"/> -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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Human Rights Issues in North Korea and the Residents' Defection: An Analysis of Job Involvement according to the Period of Service of the South Korean Security Police

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Abstract

Purpose: The purpose of this study is to validate the difference in the effectiveness of the police on job involvement based on their work experiences in order to validate the effectiveness of the security police who directly make contacts with the North Korean defectors as a solution to various problems and conflicts.

Method: In this study, among police officers in the security department as of 2020 who had experience in work related North Korean defectors, 100 trainees in the Police Human Resources Development Institute were surveyed via self-administration method. Among the collected survey questionnaires, 91 were selected as valid samples, excluding those whose answers were incomplete or missing.

Results: As a result of the study, there was no statistically significant difference demonstrated in terms of the difference in job involvement according to the total length of police service. Furthermore, as a result of the analysis performed on the difference in terms of the police's job involvement according to security and service period, there was no statistically significant difference in total security, service period, and job involvement.

Conclusion: It turned out that there was no statistical difference in terms of the perception of job involvement between the total police's service period, security and service period, which means that serving for a long time in the police or security department does not affect the responsibility, effort, and voluntary participation in the job. That is, since there is no difference in the perception of job involvement based on experiences, it is apparent that the factors affecting job involvement by various factors including working environment, performance measurement, and fatigue ought to be developed. Furthermore, this study looks forward to the lives of the North Koreans whose freedom and human rights are guaranteed by the collapse of the North Korean dictatorship.

[Keywords] Human Rights, North Korean Defectors, South Korean Security Police, Period of Service, Job Involvement

1. Introduction

The Korean Peninsula is currently one and the only divided nations in the world, and unlike South Korea, North Korea has incrementally become isolated socially, economically, politically, and culturally due to various causes including struggles for the interests between great powers, geographical location, and socialist system ideology, while human rights issues of the North Koreans are become far more serious day by day.

Adopting the socialist ideology and the communist economic concept, North Korea has such a strong control under the dictatorship of a single regime, which strongly demonstrates the tyrannical character which places importance on the group and the state rather than the individual. Such characteristics demonstrate serious violations of individual freedom and rights

along with the economic poverty of the North Korean defectors, and have been pointed out as among the causes of the increase in the North Korean defectors each year.

According to data of the National Statistical Office, as of 2020, a total of 33,752 North Korean defectors to South Korea were noted. Under the international law, they are equivalent to the refugees or those equivalent to the status of refugees, a fact which demonstrates that living in North Korea does not protect the basic human rights internationally[1]. The number of the North Korean refugees who escape from such condition of life and come to South Korea is increasing every year, and accordingly, South Korea allows them to exercise the same rights as its citizens under the domestic law, and provides settlement support, housing support, employment support, while various supports are extended such as the social welfare, educational support, and the placement of settlement helpers and protection officers[2].

Furthermore, various problems and conflicts arising from the occurrence of various crimes and discrimination against the North Korean defectors, alienation, and differences in ideology and life between the North and South Korea, will further lead to negative perception and severance in the process of exchange and integration between the North Korean defectors and South Koreans[3][4][5][6], which would likely trigger large problem for them in settling in as the members of the South Korean society[7][8]. Naturally, the will and efforts of the North Korean defectors themselves are required, yet in order to properly solve the successful settlement and adaptation of the North Korean defectors in South Korea, sympathy and understanding of the North Korean defectors, public interest and awareness, and the promotion of new policies are also required[9][10][11][12].

In particular, in order to solve this problem in the aspect of multi-cultural human rights related education for the North Korean defectors, efforts must be made such as - not in a paternalistic narrative form, but a positive and desirable aspect – by exchanging a sense of problem and mutual opinion further to their social participation and exchanges[13][14].

Unlike the social, cultural, and economic problems aforementioned, there are also the social problems which are directly related to crimes and legal problems related to the North Korean defectors in real life, at which juncture, the police play a very important role as the subjects they come into contact with at the forefront of the process of settlement in the South Korean society[15][16].

Along with the prevention of crimes against the North Korean defectors through the effective actions and responses for the police and providing them with opportunities to participate in the society by establishing a positive social image, resolving inter-Korean resident conflicts and establishing a public order will help ensure the safety of the people and the public well-being.

Specifically, it contributes to the successful settlement of the North Korean defectors far more intimately than in terms of the legal and institutional aspects through the personal safety and protection, response to crime victims, and the protection of victims[17][18][19]. In this respect, the legal and institutional studies on more effective security police's work and measures to strengthen the personal protection system are underway[20][21][22][23].

Furthermore, empirically, through the various variables on the police's job, it is intended to provide a positive work environment by excluding negative factors such as more effective and efficient work progress, subjects' work environment, and reduction of stress[24][25][26][27], yet in the case of security police, as they are in charge of special tasks for the North Korean defectors, previous empirical studies are inadequate, and it would be necessary to check as to what factors determine their affection for their job, pride, and effort to perform the job.

Hence, in this study, as a solution to various problems and conflicts with the North Korean defectors, in order to validate the effectiveness of the security police who directly contact them,

the difference in the effectiveness of the police's job involvement based on their work experiences was validated.

2. Research Method

2.1. Research subjects and sampling method

In this study, among police officers in the security department as of 2020 who had experience in work related North Korean defectors, 100 trainees in the Police Human Resources Development Institute were surveyed via self-administration method. Among the collected survey questionnaires, 91 were selected as valid samples, excluding those whose answers were incomplete or missing.

Table 1. The general characteristic of the research subjects.

	Description	N (%)	Total
Gender	Male	61 (67.0%)	91
	Female	30 (33.0%)	
Age	20s	7 (7.7%)	91
	30s	28 (30.8%)	
	40s	30 (33.0%)	
	50s or older	26 (28.6%)	
Education	High school	14 (15.4%)	91
	Junior college	30 (33.0%)	
	College	43 (47.3%)	
	Graduate school	4 (4.4%)	
Rank	Policemen/women	1 (1.1%)	91
	Senior policemen/women	19 (20.9%)	
	Assistant inspector	18 (19.8%)	
	Inspector	29 (31.9%)	
	Senior inspector	14 (15.4%)	
	Superintendent	10 (11.0%)	
Employment path	General recruitment	75 (82.4%)	91
	Special recruitment	5 (5.5%)	
	Police Academy	2 (2.2%)	
	Police cadet	9 (9.9%)	
	Other	0 (0.0%)	
The total length of service as a police officer	5 years and less	13 (14.3%)	91
	6-10 years	32 (35.2%)	
	11-15 years	13 (14.3%)	
	16-20 years	13 (14.3%)	
	Longer than 20 years	20 (22.0%)	
The length of service at the	2 years and less	16 (17.6%)	91
	3-5 years	56 (61.5%)	

security department	6-10 years	17 (18.7%)	
	Longer than 10 years	2 (2.2%)	
The number of police officers in the organization	10 or less	18 (19.8%)	91
	11 or more and 15 or less	42 (46.2%)	
	16 or more and 20 or less	24 (26.4%)	
	More than 21	7 (7.7%)	
Service location	Tier 1 areas (big cities)	80 (87.9%)	91
	Tier 2 areas (small/medium-sized cities)	11 (12.1%)	
	Tier 3 areas (rural areas)	0 (0.0%)	

2.2. Measuring instrument

The appropriate method for each verification method was chosen to increase the content validity and validate the construct validity of the questionnaire. Content validity was validated through consultation with relevant experts to adopt survey questions suitable for the purpose of the study, and the reliability of the survey questions was shown to be Cronbach's α coefficient .798.

Table 2. The questions.

	Questions
Q-1	I feel love of family for my current job.
Q-2	I feel a strong sense of affiliation and membership for my current job.
Q-3	I have a strong emotional attachment for my current job.
Q-4	The current job is worth working hard with devotion.
Q-5	I feel proud for the fact that I can realize the public interest through the performance of the organization's work.

2.3. Data processing and the analytical method

The data processing for this study was conducted by the SPSS 23.0 Program, a statistical package program, and the statistical verification was performed according to the purpose of the data analysis as follows.

First, the frequency analysis was performed to identify the general characteristics by using the SPSS/PC+23.0 program.

Second, to validate the reliability of the questionnaire, the Cronbach's α coefficient was calculated.

Third, the one-way ANOVA was performed to examine and understand the difference in job involvement of the security police according to the total police related service period.

Third, the one-way ANOVA was performed to examine and understand the difference in the security police's job involvement according to security and service period.

3. Research Results

3.1. Differences in the police's job involvement according to the total length of police service

Table 3. Differences in the job involvement according to the total length of police service.

		N	M	SD	F	sig	post hot
Q-1	5 years or less	13	2.6923	.63043	1.701	.157	
	6 years or longer 10 years or less	32	2.8438	.3689			
	11 years or longer 15 years or less	13	2.6923	.48038			
	16 years or longer 20 years or less	13	2.9231	.49355			
	20 years or longer	20	3.1000	.71818			
Q-2	5 years or less	13	2.8462	.80064	2.299	.065	
	6 years or longer 10 years or less	32	2.9063	.46555			
	11 years or longer 15 years or less	13	2.8462	.37553			
	16 years or longer 20 years or less	13	3.1538	.55470			
	20 years or longer	20	3.3000	.65695			
Q-3	5 years or less	13	2.8462	.68874	1.033	.395	
	6 years or longer 10 years or less	32	3.0313	.69488			
	11 years or longer 15 years or less	13	2.8462	.55470			
	16 years or longer 20 years or less	13	3.0769	.49355			
	20 years or longer	20	3.2500	.78640			
Q-4	5 years or less	13	3.2308	.72501	1.387	.245	
	6 years or longer 10 years or less	32	3.2188	.60824			
	11 years or longer 15 years or less	13	2.8462	.68874			
	16 years or longer 20 years or less	13	3.3077	.48038			
	20 years or longer	20	3.3500	.67082			
Q-5	5 years or less	13	3.2308	.72501	1.079	.372	
	6 years or longer 10 years or less	32	3.2188	.65915			
	11 years or longer 15 years or less	13	2.9231	.49355			
	16 years or longer 20 years or less	13	3.2308	.59914			
	20 years or longer	20	3.4000	.68056			

Note: A: 5 years or less, B: 6 years or longer - 10 years or less, C: 11 years or longer - 15 years or less, D: 16 years or longer - 20 years or less, E: 20 years or longer.

<Table 3> illustrates the difference in job involvement according to the total police service period of the affiliated organization. As a result of the analysis performed, it turned out that there was no statistically significant difference between the total police service period and the job involvement.

3.2. Differences in the police's job involvement according to security and length of service

Table 4. Differences in the job involvement according to security and length of service.

		N	M	SD	F	sig	post hot
Q-1	2 years or less	16	2.6875	.60208	1.898	.136	
	3 years or longer 5 years or less	56	2.8571	.51974			
	6 years or longer 10 years or less	17	3.0000	.50000			
	10 years or longer	2	3.5000	.70711			
Q-2	2 years or less	16	2.9375	.68007	1.031	.383	
	3 years or longer 5 years or less	56	2.9643	.53815			
	6 years or longer 10 years or less	17	3.2353	.66421			
	10 years or longer	2	3.0000	.00000			
Q-3	2 years or less	16	2.9375	.68007	.517	.671	
	3 years or longer 5 years or less	56	3.0179	.64642			
	6 years or longer 10 years or less	17	3.1176	.78121			
	10 years or longer	2	3.5000	.70711			
Q-4	2 years or less	16	3.0625	.68007	1.346	.265	
	3 years or longer 5 years or less	56	3.2321	.66033			
	6 years or longer 10 years or less	17	3.1765	.52859			
	10 years or longer	2	4.0000	.00000			
Q-5	2 years or less	16	3.2500	.68313	1.064	.369	
	3 years or longer 5 years or less	56	3.1786	.63553			
	6 years or longer 10 years or less	17	3.2353	.66421			
	10 years or longer	2	4.0000	.00000			

Note: A: 2 years or less, B: 3 years or longer - 5 years or less, C: 6 years or longer - 10 years or less, D: 10 years or longer.

<Table 4> illustrates the difference in the police's job involvement according to security and service period. As a result of the analysis performed, it turned out that there was no statistically significant difference in the total security, service period, and the job involvement.

4. Discussion and Conclusions

The conclusions of this study are as follows.

First, it turned out that there was no statistically significant difference in the job involvement difference of the security police according to the total police service period for all questions. This means that the period of the police service does not have a statistical effect on the job

involvement of the security police. However, it turned out that the longer the total police service period, the higher the recognition level of job involvement.

Following which, it turned out that there was no statistically significant difference across all questions in the difference in police security and job involvement of the security police according to service period. This means that the security and service period do not have a statistical effect on the job involvement during the police service. However, it turned out that the higher the security and the longer the service period, the higher the recognition level of job involvement.

Gathering which, it turned out that there was no statistical difference in the perception of job involvement between the total police service period and the security period, which means that working for a long time in the police or security department does not affect responsibilities, efforts, and voluntary participation. That is, since there is no difference in terms of the perception of job involvement based on experiences, it is apparent that the factors affecting job involvement by various factors including working environment, performance measurement, and fatigue should be developed[28][29][30]. Furthermore, additional studies will be required to verify as to the mediating effect of the factors by conducting a study on the special subjects of the security police.

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6. Appendix

6.1. Authors contribution

Initial name	Contribution
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Lead Author	CL	-Set of concepts <input checked="" type="checkbox"/>
		-Design <input checked="" type="checkbox"/>
		-Getting results <input checked="" type="checkbox"/>
		-Analysis <input checked="" type="checkbox"/>
Corresponding Author*	SJ	-Make a significant contribution to collection <input checked="" type="checkbox"/>
		-Final approval of the paper <input checked="" type="checkbox"/>
		-Corresponding <input checked="" type="checkbox"/>
		-Play a decisive role in modification <input checked="" type="checkbox"/>
Co-Author	BK	-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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