# Development of an Orff Musical Activity Intervention Program based on Interpersonal Care for Children from Multicultural Families

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## 다문화가정 아동을 위한 대인 돌봄 기반의 오르프 음악 활동 프로그램 개발

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**Abstract** This study aims to develop an Orff musical activity program based on interpersonal care for children from multicultural families in South Korea. The Orff music activity program based on interpersonal care consists of a program that can control ego-resilience, peer relationships, happiness, anxiety, and stress, and was developed based on the Analysis, Design, Development, and Implementation (ADDI) model. As a result, a ten-session program was developed based on the expressive area of care, theme, goal, interpersonal care technique, Orff technique. The research results of the developed program show that interpersonal care nursing can be effective for children from multicultural families, and this program can be used as an intervention to improve children's mental health.

Key Words: Ego-resilience, Happiness, Peer relation, Anxiety, Stress, Children

요 약 본 연구에서는 우리나라 다문화가정 아동을 위한 대인돌봄 기반의 오르프 음악활동 프로그램을 개발하고자 한다. 대인 돌봄 기반의 오르프 음악 활동 프로그램 구성은 자아 탄력성, 또래 관계, 행복, 대인 돌봄 인식, 불안 및 스트레스를 조절할수 있는 프로그램으로 구성하였으며, 분석(Analysis), 설계(Design), 개발(Development), 실행(Implementation)의 ADDI 모형을 토대로 개발하였다. 그 결과, 돌봄의 표현 영역, 핵심 주제, 돌봄 목표, 대인 돌봄 기법, 오르프 기법에 근거한 10차시의 프로그램이 개발되었다. 개발된 본 프로그램의 연구 결과를 통해 다문화가정 아동에게 대인돌봄간호가 효과적일 수 있으며, 본 프로그램이 아동의 정신건강 증진을 위한 중재로 활용될 수 있는 기초자료로 활용될 수 있을 것이다.

키워드: 자아 탄력성, 행복, 또래 관계, 불안, 스트레스, 아동

#### 1. Introduction

A multicultural society is one in which one parent is a foreigner and each partner has a different nationality, race, and/or culture. In South Korea, the rate of marriage for unions in which both partners are Korean ("domestic marriages" hereafter) decreased by 7.2% in 2019, while the multicultural marriage rate increased by 4.0% compared to the previous year [1]. Regarding the composition of multicultural families, marriage between a South Korean man and a foreign woman predominated at 69.3%, and of these unions, the nationality of the foreign female spouse was mainly Vietnamese (30.4%), followed by Chinese (20.3%) [1].

The characteristics of multicultural families in South Korea include the stress of adjusting to marriage owing to different cultural backgrounds, the short period of dating before marriage, and generally large age gaps (older husbands). Owing to conflicts and frequent emotional confrontations caused by the short adjustment period, the divorce rate involving multicultural couples is 32.6% higher than that of domestic marriages, and the average duration of marriage is also 8.6 years shorter [2]. Therefore, from an early age, children from multicultural families are exposed to the difficulties of being raised by a foreign mother as their main caregiver, and the challenges associated with care within a broken family.

Meanwhile, while South Korea's overall birth rate decreased by 7.4% in 2019, the number of children from multicultural families increased by 5.9% compared to the previous year, increasing the proportion of all births [1]. Among them, the proportion of elementary school students is high at 76.1%, preschool children under the age of 6 years comprise 56.4% of all children from multicultural families, and the number of school-aged children from multicultural families is expected to continue to increase in the future [3].

Children from multicultural families are exposed

to a culture different from that of their main caregiver and have difficulty learning Korean, resulting in poor academic ability. They may be discriminated against and ostracized because of a different appearance to others, resulting in psychological withdrawal, increased stress, and anxiety, and lowered self-esteem, which negatively impacts school and life adjustment, and interpersonal and peer relationships, as well as causes identity confusion [2,4,5]. In particular, children's anxiety and stress are high owing to performance anxiety and fear of the unfamiliar due to language, appearance, and dual culture, and they have difficulty expressing and asserting their thoughts to others. This reduces their ability to form relationships with others and to learn [6,7]. Therefore, children from multicultural families must strengthen their ego resilience and receive psycho-emotional support and interactions to adapt healthily to a threatening environment [8]. In addition, school-aged children with high ego resilience cope well with academic stress and subjective well-being [9].

Happiness is the subjective emotion of satisfaction and joyfulness in life. Happiness in childhood needs to be given more attention than happiness in adulthood because it is the foundation for satisfying experiences throughout life. The biggest factors that determine a child's happiness are a close relationship with their parents, strong attachment, and the feeling that they have been cared for through acts of love [10]. When children are highly satisfied with their parents, their peer relationships become smoother, their mental health improves, and their sense of happiness increases [11].

Children's perception of care means that they feel loved by their parents and that someone takes care of them when they experience physical or emotional challenges and helps the child form positive relationships with others. When parental care is lacking, unstable attachments are formed, and relationships with parents are not smooth, which negatively affects relationships with others [12].

In this way, awareness of care in childhood is very important, because it affects attachment in adulthood, satisfaction with marriage, and satisfaction with various relationships [13]. Children's care can also take place at school and in society, and Leininger's transcultural nursing theory requires that cultural characteristics be taken into consideration [14]. Foreign mothers feel isolated because of the lack of family and peer support groups around them to help with the birth and raising of their first child, and this may be passed on as a negative feeling toward their child [15]. In particular, a foreign mother's lack of Korean language skills affects the child's language acquisition process, making the child passive in expressing and asserting thoughts in peer relationships [16,17]. Children's peer relationships and acculturation stress have been reported as factors that affect ego resilience and happiness. Among the support projects for children from multicultural families, there are language development support and multicultural awareness improvement projects, but no programs have been provided to increase care awareness [18,19].

Therefore, it is necessary to provide direct care to children and increase their awareness of care by developing and providing care programs based on Kim's [20] human care theory. Increased awareness of care could help children change negative emotions, enable them to recognize the emotions of others, regulate their emotions, and increase their subjective happiness by reducing anxiety and stress [21]. This study develops an interpersonal carebased Orff musical activity program, focusing on group activities. Orff musical activities are the focus, considering that children from multicultural families are passive in verbal expression and self-assertion. Orff musical activities involve nonverbal communication to improve communication with foreign mothers. To promote peer relationships, it is necessary to use group rather than individual activities. This study presents the program as a nursing intervention to improve mental health,

which can be used by caregivers in the community along with parents.

#### 2. METHODS

#### 2.1 Program development

An Orff musical activity program based on interpersonal care for children from multicultural families was developed using the ADDI model for analysis, design, development, and implementation [22].

#### 2.1.1 Analysis

In this study, to identify the characteristics and needs of children from multicultural families, we investigated the mental health status and program needs of children from multicultural families through a literature review and in-depth interviews using cultural care and health assessment tools and Leininger's sunrise model.

## 2.1.2 Design

In this study, the goals for each session of the program were established based on the results of the analysis process. A logical research design, program operation method, and various tools were selected to evaluate the effectiveness of the program.

According to Gendron's [23] metaphorical care expression style using elements of music, the structure of Orff's musical activity program based on interpersonal care was largely divided into three areas -theme, harmony, and melody. There were three sessions for each area, and the last session was in an integrated area, giving a total of ten sessions. Each session comprised three stages: introduction, development, and summary. In the introduction, a hello song composed by the researcher, according to the purpose of the program, is sung for each session to announce the start of the program, and the participants warm up and become motivated through games and video viewing that fit the theme of each session. In the development component, ten interpersonal care techniques are applied in the theme area while engaging in Orff musical activities, such as singing, creating ostinato rhythms, physical activity, playing and appreciating musical instruments, and harmonizing with musical instruments.

Orff's musical activities deepened the topic's content through physical activities, creating rhythm, singing, playing instruments, and joining together (ensemble), according to the title of each session. In the final stage, the program concludes by singing a goodbye song composed by the researcher for the program; each person shares their feelings and plans to meet again the next time. To ensure smooth interaction with the participants, the number of participants per group should be limited to ten or fewer.

#### 2.1.3 Development

The program content was composed by incorporating Gendron [23]'s method of expressing metaphorical care through music, according to literature analysis and requirements [24]. Expressive care, as viewed through the metaphor of music, was structured around theme, harmony, and melody.

First, in the theme area, the atmosphere should be positive, the temperature should be warm, and the power attribute should express care in a soft and gentle manner. The goal of care is to reduce the anxiety and stress of children from multicultural families by encouraging them to open their hearts to others and provide comfort. Orff's musical activities used at this time include singing, listening, and physical activities.

Second, the harmony area achieves unity and harmony through communication, which means achieving mutual harmony between the caregiver and recipient. Interpersonal mediation techniques centered on noticing should be matched to achieve culture, personal characteristics, harmony, and harmony between the caregiver and recipient. This is an ensemble song created based on cultural elements, along with Orff's techniques of singing, appreciating, and playing musical instruments by rec-

ognizing and understanding the cultural context of children from multicultural families. This improves peer relationships, which is the goal of care, by playing together and performing.

Third, in the melody area, the act of care between the caregiver and recipient must be carried out like a rhythm that occurs regularly and simultaneously within the music. Focusing on the subject's artistic experience in the melody area, hope should be matched among the interpersonal care techniques to ensure that the caregiver can continuously and regularly provide hope to the subject. Orff's musical activities aim to improve self-resilience and happiness, which are care goals for children from multicultural families, through singing, listening, playing musical instruments, joining, and performing.

Between three and ten experts should evaluate the content validity of the preliminary program. Six people verified our program: one professor from the Department of Nursing and Psychiatric Nursing in the university, one music education instructor with experience in program development and a doctoral degree, two Orff instructors, one music therapist, and one mental healthcare nurse.

The content validity index of each question was evaluated on a four-point scale by experts by applying the content validity index to program goals, content and structure, operation time, application method, and appropriateness of the evaluation tool [25]. In addition, opinions on open questions obtained from experts (changing the title of the topic to be more friendly and incorporating various traditional percussion instruments) were reflected. (1) Amount of content according to operating time (excessive activity compared to time). Development process (Orff activities should be carried out sequentially by creating rhythm, physical activity, singing, playing a musical instrument, ensemble, improvisation, etc.). (3) Elements that reflect culture (e.g., more active use of song, dance, physical activities, and traditional musical instruments). (4) Modifications were made to complement

the composed song (e.g., changing the harmonic code of the hello and goodbye songs, making greater use of pentatonic scale elements based on foreign traditional folk songs in the composed ensemble).

In the preliminary study, the actual program, modified after expert validation, was simulated and operated on ten children from multicultural families who had no experience participating in musical activity programs in May 2020. The program was revised by collecting opinions from participating subjects regarding the training content, overall operation time, and method supplements. In addition, a mental health nurse, a music therapy expert, and three caregivers from the center were invited to observe the class and check the content that needed to be added.

Positive reactions to participating in the program include (1) that even those who are not good at playing a musical instrument can participate in the activities without any burden; (2) that participants can experience new Orff instruments that they would not normally encounter; and (3) that the application of interpersonal care techniques in the program was not found in existing music classes and therapy sessions. In particular, they actively investigated the condition of the participants, provided

comfort, inspired hope, and shared activity content and videos with parents who were unable to participate in the activities for financial reasons through social networking service activities and center officials. Thus, it was possible to provide motivation for participation.

#### 2.1.4 Implementation

The program was implemented in the program rooms of five local children's centers for ten sessions, twice a week, 45 minutes per session, for five weeks, from June 8 to September 16, 2020. There were ten participants per group, and the groups were formed at each center. After each session, a meeting was held with the center director to discuss the program's operation and participants' reactions and share opinions with their parents. Finally, the program was revised and supplemented through a final review by experts and considering preliminary research, and an interpersonal care-based Orff musical activity program was completed.

#### 3. RESULTS

The final completed interpersonal-care-based Orff musical activity program is shown in Table 1.

| lab | le 1 | l. I | Deve | lopm | ent | ot ' | the | O | rtt | musica | ac | tivit | yр | rogram | basec | l on | int | terp | erso | onal | care |  |
|-----|------|------|------|------|-----|------|-----|---|-----|--------|----|-------|----|--------|-------|------|-----|------|------|------|------|--|
|     |      |      |      |      |     |      |     |   |     |        |    |       |    |        |       |      |     |      |      |      |      |  |

| Expressive area of care | Theme  | Goal                             | Interpersonal care technique                          | Orff technique   | Contents   |
|-------------------------|--|----------------------------------|---|--|--|
| Theme                   | Session 1:<br>Show me. A<br>day that<br>made my<br>heart tremble | Reduces<br>anxiety and<br>stress | Comforting,<br>noticing, sharing,<br>active listening | -Speaking<br>-Sing a song<br>-Watch<br>-Physical<br>activity<br>-Simultaneous<br>imitation | Suggest that we play the 'Introduce Me Game.' => (Noticing) Imitate the therapist's lyrics and introduce who you are and their characteristics to the accompaniment of ukulele (one person at a time). Through the appearance of a voice—modulating tennis ball doll, children talk about how they are living due to COVID—19 and their emotional state and are asked to choose a picture emotion card similar to their current emotion. => (Comforting) Select one from the group of effect instruments such as leather, metal, wood, etc., explore the instrument → create a speech rhythm ostinato (expressing one's emotional state through an instrument to the accompaniment of the therapist's djembe) Listen — When the finger symbol rings once, listen to the music of (None such–England) When the finger symbol rings twice — remain silent, choose a scarf, and improvise your feelings to the music. => (Comforting) If it rings twice in a row — understand the therapist's simultaneous imitation and express the improvised movements with your body in |

|         |   |                                   |   |   | turn (using a scarf, peacock feather) => (Comforting)  • When the finger symbol rings three times – break the silence and talk about how your emotions changed when you played them with  |
|---------|---|-----------------------------------|---|---|---|
|         |   |                                   |   |   | a musical instrument and when you improvised them with a scarf. => (Sharing), (Active listening)  |
|         | Session 2:<br>Feeling with<br>you(gently,<br>kindly)  | Reduces<br>anxiety and<br>stress  | Comforting,<br>participating,<br>companioning,<br>sharing,<br>complimenting | -Physical<br>activity<br>-Ensemble  | <ul> <li>Warm up (traffic light game) – Two people are formed into pairs, one of whom closes his eyes and moves the partner with closed eyes to safety =&gt; (Participating), (Companioning)</li> <li>Close your eyes and talk about how you felt when you walked while relying on a friend/ Share what it would feel like if someone supported you in a dark situation →&gt; Feeling supported →&gt; Gaining confidence →&gt; Anxiety and fear disappearing Feel it =&gt; (Sharing), express your current emotions and images through an impromptu ensemble.</li> <li>Play the melody of the ensemble ("Let's Be Friends") composed by the therapist and determine the roles of each part of the percussion instrument, recorder, melodic instrument soprano, and alto metallophone. =&gt; (Sharing), (Participating)</li> <li>Starting with the recorder singing the melody, each player sequentially plays the correct part to experience the ensemble and share their feelings. With the help of a friend, share when you moved with your eyes closed and whether there were any changes in your emotions. =&gt; (Complimenting)</li> <li>Complete a music collage by cutting out photos and text while listening to music that reflects your current emotions. =&gt; (Complimenting)</li> <li>Explain and introduce each person's collage work. =&gt; (Sharing), (Active listening)</li> </ul> |
|         | Session 3:<br>Open your<br>heart to<br>everyone<br>(Open minds)                             | Reduces<br>anxiety and<br>stress  | Comforting,<br>accepting,<br>hoping   | -Sing a song<br>-Watch<br>-Playing<br>musical<br>instruments<br>-Playing in an<br>ensemble                | <ul> <li>Play a musical instrument exploration game by playing Warm up-MIKADO.</li> <li>Introduce effect instruments and melody instruments such as family, metal, and wood, and talk about the origins of these instruments from traditional instruments in many countries around the world. Let students touch and explore the instruments. =&gt; (Accepting)</li> <li>The therapist has each group select an instrument one by one, practice each part, and then perform a wireless percussion instrument ensemble.</li> <li>After playing together with instruments of different origins, we talk about our impressions and listen to folk songs from our mother's country, who grew up in a different country than us. =&gt; (Accepting)</li> <li>Listen to folk songs from around the world and share your own feelings and thoughts.</li> <li>Sing "Kokoreoko," a traditional African folk song, in canon form to the accompaniment of the therapist's ukulele.</li> <li>They sing in canon format and play traditional instruments, and they say that like African folk songs, mother country folk songs can be reborn as wonderful music and support them to be proud of their culture. =&gt;(Hoping)</li> </ul>   |
| Harmony | Session 4:<br>Talking about<br>myself with<br>my body<br>(make a<br>sound, move,<br>see me) | Improved<br>peer<br>relationships | Noticing,<br>participating,<br>hoping,<br>complimenting,<br>sharing         | -Physical<br>activity<br>-Sing a song<br>-Improvisation<br>ensemble<br>-Playing<br>musical<br>instruments | Warm up − Play the 'Shadow Dance' game. Two people are paired up and one person becomes the leader and improvises an action while the other person follows along. ⇒\(Participating\), Describe the other person's expression and appearance when making movements that make you feel like a shadow.      Think about what kind of facial expressions you usually make, and say who recognizes you when you're angry, tired, or sad, and who you want to recognize you. ⇒\(\) (Noticing\)      Imagine yourself comfortably and sing the song 'Don't Frown.' to the accompaniment of the guitar. ⇒\(\) (Hoping\)      When I was sad, angry, or having a hard time, I talked about how I overcame it. ⇒\(\) (Complimenting\)      Tell the children that they will choose a smiling face (leather instrument), a crying face (small instrument), an angry face (wooden instrument), or an upset face (metal instrument), and   |

|        |  |   |   |  | have them each choose an instrument related to their main facial expression.  • While singing, lyrics about facial expressions appear at the end of the song, or each person plays the instrument of their choice during the chorus.   |
|--------|--|---|---|--|--|
|        |  |   |   |  | <ul> <li>After playing together with the selected instrument, share your<br/>thoughts. =&gt; (Sharing)</li> </ul>  |
|        | Session 5:<br>Different Us,<br>Same Song   | Improved peer relationships                       | Noticing,<br>participating,<br>sharing,<br>comforting | -Watch<br>-Playing<br>musical<br>instruments<br>-Playing in an<br>ensemble       | Warm up − Play the Amazon jungle game. It is a game where you return a mysterious egg to its place in the jungle. After dividing into two groups, one group prepares three instruments and chooses a direction for each. ex) North–go straight, return–right turn, symbol–left turn  One person holds the egg with their eyes closed, listens to the promised sound, orients the egg, and places it safely in its place. At this time, other groups stand around the classroom as obstacles, and if the person with their eyes closed touches the obstacle, they fail. => (Participating)  Let's share how each person felt when playing the game while relying on each other. => (Sharing)  Try to express the mysterious feeling felt by the indigenous people who lived in the great outdoors, such as those who roam the Amazon jungle and live with wild animals, through an ensemble (Pentatonic ensemble). => (Noticing)  Assign an instrument to each part and allow for partial practice.  Let's each talk about how improvisation that creates a mysterious atmosphere comforts us, what kind of feelings it leaves behind, and how we interact with our friends while playing in an ensemble. => (Comforting) |
|        | Session 6:<br>Comforting<br>each other's<br>hearts<br>(Heal the<br>world & heal<br>for us) | Improved<br>peer<br>relationships                 | Noticing,<br>forgiving,<br>complimenting,<br>hoping   | -Sing a song -Playing musical instruments -Playing in an ensemble -Improvisation | Watch a simple video.     Listen to the song "Heal the world" and sing along with the converted lyrics. => (Forgiving)     We share the meaning and feelings of the song with each other and talk about how we feel when we are made fun of for looking different from others or with prejudice for being multicultural, or when our parents fight frequently, and share our emotions.     When I feel confused and upset like this, I think at what point my feelings become okay, and I talk to my friends about how I make my feelings feel okay and introduce my own way of comforting myself. => (Complimenting)     Let's join together in the ensemble (Am) to express our dark feelings and express our changed feelings through Do−Pentatonic improvisation.     Share your feelings about how your emotions changed, resolved, and interacted with your friends while playing together. =>(Hoping)   |
| Melody | Session 7:<br>'Awakening<br>our senses'  | Improved<br>ego<br>resilience<br>and<br>happiness | Hoping,<br>complimenting,<br>noticing                 | -Sing a song<br>-Create a song<br>-Physical<br>activity                          | Sing "You are my sunshine" to the guitar accompaniment.  I think about when I feel like sunshine. => (Hoping)  Tell me when I 'feel hopeful, happy, happy, and confident.'  Create your own song by creating new lyrics based on what you just said (songwriting). => (Complimenting)  After discussing the song we made, we share our feelings.  Let's make a statue of ourselves, feeling excited and confident. Decorating a statue Imagine that the wooden doll in front of you is you(look at the wooden statue and express yourself in the same way) => (Noticing)  A sculpture exhibition is held and the teacher looks at the statues and imitates them.  Two people become a pair, one becomes a statue, and the other person imitates his partner's appearance.  Sell the best works publicly.  Expressing who I want to be when I become a statue and expressing with my body what I want to become, supporting and reinforcing the creation of the work. => (Complementing), select the best-made statue.  |

|                              | Session 8:<br>Beautiful<br>Country | Ego<br>resilience,<br>increased<br>happiness   | Hoping,<br>complimenting   | -Sing a song<br>-Playing<br>musical<br>instruments<br>(percussion<br>instrument)<br>-Playing in an<br>ensemble | <ul> <li>Open the prepared picture and allow the child to look at it (explore and appreciate the picture). Listen to "Beautiful Country" with piano accompaniment.</li> <li>Share your thoughts on "Aren't I a happy person living on this land with blue skies?" ⇒ (Hoping)</li> <li>⇒ Share your thoughts on whether you can say, 'As global citizens, we came from parents of various cultures, but we are happy people because we live here in South Korea, where we have blue seas and mountains.'</li> <li>Tell them that you will perform an ensemble performance based on this song, and divide the parts by bass, alto, soprano, and effect instrument group.</li> <li>After practicing each part sufficiently, look at the color score and slowly start playing together.</li> <li>The therapist divides the singing team into a singing team and an ensemble team, and performs the song simultaneously, as if it were a performance. ⇒)(Complimenting)</li> </ul>                      |  |  |  |  |
|------------------------------|------------------------------------|--|--|--|--|--|--|--|--|
|                              | Session 9:<br>Beautiful Us         | Improved<br>ego<br>resilience<br>and<br>happiness  | Hoping,<br>accepting,<br>sharing, active<br>listening,<br>complimenting  | -Physical<br>activity<br>-Sing a song<br>-Playing<br>musical<br>instruments                                    | After watching a video of people dancing in folk costumes from around the world, we asked participants to prepare so that they could perform as well. The group then tries on costumes from countries around the world and experienced cultures different from ours. =) (Accepting)  Each person tries on a costume, sings each part, checks each other's harmony, and corrects any shortcomings.  Just like last time, we decide which instrument to play for each part, practice it, then look at the color score of the song and play it together.  Decide on a soloist who will sing the first part first, and discuss which parts to include the movements in.  Demonstrate the soloist's song and chorus as if it were a performance and share your feelings. =) (Sharing), (Active listening)  If everything goes well, the first verse will be performed as a full choir, and for the second verse, the soloist and the remaining children will perform as an ensemble. =) (Complimenting) |  |  |  |  |
| Theme,<br>harmony,<br>melody | Session 10:<br>Show us!            | Reduces<br>anxiety,<br>stress,<br>improves<br>peer<br>relationships,<br>ego<br>resilience,<br>and<br>happiness | Integrated intervention, comforting, noticing, hoping, active listening, complimenting, participating, accepting | -Sing a song<br>-Playing<br>musical<br>instruments<br>-Playing in an<br>ensemble<br>-Body<br>expression        | The therapist says that for today's performance, they have invited parents and teachers to the front and planned a sandwich party.  Among the sessions so far, I will present the care I most want to receive. =⟩ (Active listening)  Ensemble song (Let's Be Friends, Japanese pentatonic), Beautiful Nara is played by each part. =⟩ (Complimenting)  Once you have finished practicing the parts, try playing the whole piece so that the whole group comes together to achieve harmony.  Play in order, and support each child to finish the performance (lower grades can play by adding more effect instruments) =⟩ (Participating)  After presenting the performance, everyone shares their feelings. =⟩ (Active listening)  Next, everyone sings a farewell song and takes a commemorative photo. =⟩ (Accepting)   |  |  |  |  |

## 4. DISCUSSION

This study sought to develop a model based on the interpersonal care techniques of the human care model. Studies targeting the upper grades of elementary school [26], small and medium-sized enterprise workers [27], nursing students [28], and nurses [12,29,30] have also shown that awareness of interpersonal care increased after applying the

#### program.

In particular, a difference was observed when applying only the three techniques of noticing, comforting, and hope, which are important for school-aged children, to children from multicultural families. In addition, the Orff music activity program allowed them to express their emotions through music, recognize the emotions and situations of others, and recognize that they were be-

ing cared for and emotionally supported through musical activities with their peers in the program. Through Orff's musical activities, opportunities were created to actively understand others through the songs, music, and dance of the mother country; it is believed that the interaction with parents increased, and the children felt that they were being cared for on their own. Regarding specific interpersonal care behaviors, the program increased awareness of participating, comforting, hoping, sharing, active listening, companioning, and notifying.

Based on previous studies, the program has nourished children's ego resilience, which has five components: vitality, emotional control, interpersonal relationships, self-acceptance, and optimism [31]. Art-based activities resulted in a significant change in children from multicultural families; however, emotional control showed the lowest change [32]. There were no significant differences in emotional regulation. This is because children from broken homes and multicultural families have difficulty expressing and controlling their emotions and lack vigilance in using appropriate words to encourage their own expressions [31]. Therefore, to develop musical activities to improve ego resilience scores, the program was structured so that comforting and noticing techniques were provided before hoping, which is a caring behavior that increases ego resilience.

Taylor et al. [33] stated that ego resilience allows children to empathize and express their emotions well and understand the emotions of others. Orff's musical activity program based on interpersonal care recognizes, understands, and sympathizes with multicultural children's unique emotional and psychological states through recognition, and the mediator uses appropriate verbal expressions. Using Orff's musical activities conducted in large groups, a preliminary program was designed to increase parental attachment and resilience through the process of naturally expressing emotions to friends, talking about feelings, listening to each other, and un-

derstanding each other. In addition, Orff's musical activity techniques, such as movement activities, imitation, and improvisation, were intended to help increase resilience by increasing the process of recognizing and understanding each other. Based on previous research showing that Orff techniques promote group experiences, this program was designed to positively affect the ego resilience of children from multicultural families [34].

Regarding peer relationship scores, related studies have shown that peer relationships are improved through mutual exchanges and experiences of empathy and consideration, based on the understanding and acceptance of others during the percussion ensemble process [35]. Akbari et al. [36] reported that music therapy involves improvising, singing, appreciating, discussing, and musical activities to achieve therapeutic goals that deregulate emotions, form cooperative relationships, and provide emotional support. In addition, music is useful for people who have difficulty forming relationships or behaving with strangers through non-verbal communication and is effective for autism, learning disabilities, and attachment disorders with friends. In this study, the developed program was structured based on ensemble performance using Orff instruments [36]. In addition, previous studies have shown that a factor that directly affects peer relationships among school-aged children is their ability to empathize [37]; in the case of children from multicultural families, it is their parents' warm and accepting parenting attitude [38]. Empathy corresponds to noticing and feeling the emotions of others. If parents, teachers, and family members provide care through praise, acceptance, and encouragement, the peer relationships of children from multicultural families would further improve.

Children's happiness was also effective in the sub-areas of enjoyable life, immersive life, and meaningful life, and these effects continued even after the program ended, indicating that gratitude diary recording and happiness experience activities

were effective [39,40]. In addition, gratitude can be developed through writing gratitude journals and self-directed task activities, while optimism can be developed through learning [41]. Therefore, in this study, considering the research environment in which social distancing was strengthened owing to the second wave of COVID-19, we decided to supplement the program content with measures to continuously maintain children's sense of happiness.

In previous research on children's anxiety, Goldbeck and Ellerkamp [42] showed that when music therapy was combined with cognitive behavioral therapy and applied to children diagnosed with anxiety disorders, anxiety was significantly reduced, with results lasting for 4 months. In addition, when the Orff music program was provided to juvenile offenders, aggression, anxiety and tension levels, and feelings of inferiority among the emotional instability subcategories all decreased, and were no longer significantly different [43]. Therefore, this program was designed to provide sufficient intervention time to relieve the emotional and psychological withdrawal felt by multicultural children, delay in language development caused by biculturalism, and subjective anxiety caused by excessive prejudice and bullying against foreigners.

In addition, to lower children's physiological anxiety, we decided to use an objective measurement method that reflects all characteristics of body organs up to 100% using non-contact equipment, such as a digital camera called Vibra Image. This device's reduction in anxiety/tension scores measured through Vibra Image was significant, and although there was no change in the anxiety scores measured by questionnaires, the anxiety scores that were measured physiologically decreased [44]. In this respect, it was confirmed that there is a difference between the states of physiological and cognitive anxiety, which needs to be reflected in this study [44]. In particular, in the measurement method of anxiety, the Vibra image can identify more subtle differences, as anxiety was lower than average in the subjective self-questionnaire but non-significant results were obtained. The Orff music program significantly reduced the anxiety and tension levels of the juvenile offenders. This is believed to be because music is a tool for reducing emotional instability during the process of expressing one's psychological emotions, and it has become an appropriate method of expression for boys [43]. Therefore, physical activities that can reduce anxiety and tension levels and musical activities, including improvisation and ensemble performance, were added to this program.

The acculturation stress of children from multicultural families differed from that in previous studies, which reported a reduction in acculturation stress because of applying music therapy centered on traditional nursery rhymes [45]. Furthermore, a statistically significant difference was found in acculturation stress [46]. Music therapy centered on percussion instrument performance was previously conducted on Mongolian middle school students living in South Korea, and when the obtained data were compared before and after the program, acculturation stress was found to be significantly reduced [47]. These were sessions 1 to 4 (introduction stage), stages 5 to 10 (development stage of stress reduction through self-exploration and emotional expression), and sessions 11 to 12 (concluding stage of experiencing empathy and support through music). Because this is aimed at reducing acculturation stress, these findings should be reflected. In the case of children's physiological stress, stress scores measured using uBioMacpa were obtained, and music therapy centered on percussion instrument performance significantly lowered the stress scores of elementary school [45]. In addition, appreciating traditional Korean music significantly reduced the stress index of adolescents [48].

This study has limitations as it only focuses on program development. In the future, the application and verification of this program during the development phase should be explored. Additionally, ob-

jective and reliable results should be obtained in a future study based on the application of the developed program.

The contributions of this study are as follows. First, within mental health nursing education, educational content can be expanded to include mental health promotion interventions in community nursing settings. Second, in the field of nursing research, the effect variables of interpersonal care techniques have been expanded along with the empirical verification of the human care model, and the application target of the model can be expanded by targeting children. Third, we attempted to combine existing nursing musical activity therapy practices with interpersonal care techniques, which will contribute to the expansion of practical nursing interventions that psychiatric nurses can directly use.

#### 5. CONCLUSION

The Orff musical activity program based on interpersonal care that was developed in this study is a program designed to promote ego resilience, peer relationships, happiness, and perceptions of interpersonal care, and to reduce anxiety and stress in children from multicultural families. Furthermore, it is recommended for use as a nursing intervention program to maintain and improve the mental health of children in a community. Based on the program's development, we propose that further research should test the effectiveness of this program by applying it to children from underprivileged families in addition to children from multicultural families.

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