

Keyword Network Analysis of Articles on Resilience of Young children published in South Korea

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Abstract

The aim of this study is to investigate the future research direction by utilizing keyword network analysis to analyze topics related to resilience in young children. For this purpose, among the journal papers listed in the Korean Journal Citation Index from 2002 to 2023. The keywords from these papers were extracted, and in-degree and out-degree centrality, betweenness centrality, and networks sociogram were analyzed through keyword network analysis. The findings of this study are as follows: Firstly, in Korean research on resilience of young children, resilience was expressed using eight different terms, and diverse sub-elements were observed accordingly. Secondly, keywords such as self-resilience, which encompasses sub-elements like autonomy, self-control, attachment, concerned behavior, recovery resilience, and resilience, which encompasses sub-elements like resilient competence, relational resilience, and emotional resilience, emerged as important in the analysis. Additionally, crucial keywords associated with young children's resilience included externalizing problem behavior, teacher-child conflict, teacher-child intimacy, pro-sociality, flow, emotion regulation, happiness, playfulness, mothers' parenting efficacy, adjustment to ECEC centers, gender of children, psychological health, and peer interaction. Through this study, we have identified and discussed the key topics related to the resilience of young children, explored the variables influencing their resilience, and examined strategies for enhancing their resilience.

Keywords : young children, resilience, keyword analysis, South Korea

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Introduction

In recent times, our society has been undergoing rapid changes, and there is a growing interest in the capacity to adapt effectively to the challenges presented in life. Amidst the societal transformations, individuals often find themselves facing serious threats or difficulties, prompting efforts to overcome and resolve such situations. The ability to overcome setbacks and adversities experienced during various trials and failures, referred to as 'resilience' plays a significant role in returning to a stable state and restoring functionality. Resilience, derived from the Latin word 'resilire', meaning to bounce back, refers to the ability to return to a previous stable state or to perform well again after encountering something difficult or adverse (Cambridge Dictionary, 2023.11.07). In other words, resilience can be defined as the ability to perform adequately, return to the previous level of functioning, and recover despite experiencing negative situations (Wicks, 2005; Muller, Dodd, & Fiala, 2014).

Beyond the acceleration of societal changes due to advancements in science and technology, exposure to prolonged, unexpected situations such as the COVID-19 pandemic has expanded the scope and intensity of challenges faced by individuals. Resilience involves overcoming such adversities, achieving positive outcomes (Naglieri & LeBuffe, 2006), and possessing the ability to be less sensitive to stress, allowing a return to the previous state (Luthar, Cicchetti, & Becker, 2000). This capacity becomes essential for individuals navigating the complexities and uncertainties of modern society, characterized by diverse potential threats. From a socioecological perspective, resilience is defined as a set of actions reflecting interactions between individuals and their environment, representing a dynamic process that leverages personal and situational resources to derive meaningful results (Ungar, 2012).

The extent to which resilience is formed during early childhood, a period of overall development and growth, has a positive impact on subsequent life and development (Hong, 2006; Masten, Gewirtz, & Sapienza, 2013). Early childhood marks a transitional phase in ecological upheaval as children begin social life in groups outside their homes (Bronfenbrenner, 1975). Considering that development is still in progress, providing protection and care from the surrounding environment is crucial for understanding and

adapting to the world. Simultaneously, it lays the foundation for future life situations and the ability to respond effectively to diverse challenges. During this transitional period, children face various challenges, experiencing growth through tasks, and simultaneously encountering different stressors. Thus, exploring ways to enhance resilience in early childhood is essential.

The concepts related to resilience have evolved in South Korea over different periods, starting from identifying risk factors in negative life experiences, predicting negative factors through their relationship with development, and transitioning to a focus on individuals who adapt resiliently and develop despite adversities (Shin, 2003). From a theoretical perspective, resilience has been categorized into three viewpoints by Lee (2015): psychoanalytic, developmental psychopathology, and developmental contextualism. Psychoanalytic perspectives examine an individual's temperament or personality type as one of the risk factors amid stress or trauma. Developmental psychopathology views individuals' interactions with various factors surrounding them, considering adversities as a prerequisite condition for resilient adaptation. Developmental contextualism perceives resilience as a changing tendency, understanding it as a concept rooted in preventive rather than therapeutic contexts.

The concept of resilience in early childhood encompasses individual characteristics such as temperament, personality development, and contextual experiences in the family, peers, institutions, and social, economic, and cultural environments. Research on related concepts investigates how these factors act as protective or risk elements for children, the extent to which they influence children's resilience in stressful or risky situations, and intervention or support methods from preventive or therapeutic perspectives (Gu, 2018).

Research on resilience in young children in South Korea, initiated in 2002, has been consistent, but the issue of inconsistent terminology usage persists. While studies use the term 'Resilience', translated variations such as psychological healthiness, ego-resilience, resilience, recovery resilience, and adaptive flexibility are employed depending on researchers' objectives (Hong, 2006). Although these terms share the common aspect of positive adaptation or overcoming challenging situations, the interchangeability and diverse usage of the terminology pose a problem (Jeon, 2009; Kwon, Cha, 2016), especially in studies targeting young children. Thus, there is a need to analyze how resilience is used in research on young children, leading to a redefinition of its significance.

Previous trend analyses in research have either broadly examined subjects encompassing children, adolescents, and adults (Jung, Kwak, 2021; Kwon, Cha, 2016; Park, Choi, 2016), or focused on early childhood research, exploring trends through methods, tools, types of academic journals, and the frequency analysis of topics or related variables (Gu, 2018). In addition, there was a study that reviewed the resilience literature by analyzing the subjects, timing, research design, data analysis methods, and findings in published articles (Gayatri et al., 2022). While such studies provide insights into the flow and quantitative trends of research, they often fall short in exploring the related tendencies among research topics. To address this gap, this study employs keyword network analysis, a method that quantitatively analyzes relationships between entities(nodes) in data, allowing for visualizing and exploring resilience-related concepts, factors, etc.

This study aims to analyze keywords related to resilience in early childhood through keyword network analysis, providing insights into potential directions for future research. To achieve this, articles from South Korean academic journals indexed in the Korean Citation Index (KCI) from the first study on resilience in young children in 2002 up to the present were collected. The collected data, consisting of titles and keywords containing ‘infant’, ‘young children’, and ‘resilience’, were processed, and keyword network analysis was conducted. Through this study, we intend to confirm recent trends in research on resilience in young children in South Korea, considering the rapidly changing societal context, and gain insights into various factors influencing resilience in early childhood. The specific research questions addressed in this study are as follows:

1. How has the term ‘resilience’ and its sub-factors been utilized in resilience research on young children in South Korea?
2. What are the results of the keyword network analysis of resilience research in young children in South Korea?

Method

Research Subjects

This research analyzed academic journal papers related to resilience in young children

published in South Korea. The target papers were selected from academic journals indexed in the Korean Citation Index (KCI) from the first study on resilience in young children in 2002 until June 2023. To select the papers for analysis, a keyword search was conducted using ‘infant’, ‘young children’, and ‘resilience’. Considering the diverse translations of ‘resilience’ in Korea, the English keyword ‘resilience’ was used to ensure a comprehensive survey of related studies. A total of 517 journal articles were retrieved, and the selection of target papers was based on reviewing the titles and abstracts to determine if they focused on resilience research in young children and to avoid data duplication. For example, in cases where multiple papers were published using the same data for tool development to measure the resilience of young children, only one paper was included to prevent duplication. Through this process, 156 papers were ultimately selected for analysis.

Research Procedure

The procedure for extracting keywords from research papers on the resilience of young children and conducting network analysis is as follows. Initially, research data were collected, and the scope of keyword extraction was defined. From the 517 journal papers initially selected through a keyword search for ‘child’, ‘young children’, and ‘resilience’ in the Korean Citation Index (KCI)-indexed journals, the final set of 156 research papers was chosen after reviewing titles, abstracts, and research content. The keywords for the selected papers were referenced directly from the papers. Because there were cases with the same variable name but studied with different sub-elements; cases with different variable names but studied with the same sub-elements; and cases where the relationship or influence between variables was examined in detail, including the influence of sub-variables in this study, the keywords including subfactors were extracted.

Two researchers divided the 156 research papers and extracted keywords, saving them in an Excel file for analysis. The linked list method was used when coding keywords in Excel to indicate the directionality of connections between keywords for network analysis. The linked list method is a coding method used by the Netminer program, which was employed for network analysis, to assign directionality to keyword connections when generating a matrix of keyword connections.

Subsequently, a data cleaning process was applied to refine the collected keywords. Since the keywords were input in Korean, there was a need to convert the final keywords used in the research results from Korean to English. When entering keywords in Korean, words with different forms could become the same word when translated into English, leading to standardization of similar or nearly identical words into a single word. For example, if problem-solving ability and problem-solving were used interchangeably, not unifying the terminology would lead to different recognition by the program, affecting the overall network analysis results. Therefore, terms with similar meanings or usage were standardized to a single term, such as 'problem-solving ability'. 'young children', and 'self-control' and compound nouns and spacing of words were unified. Data cleaning was carried out minimally to stay within the intended scope of each article authors' meaning, as agreed upon through discussions between researchers.

To validate the accuracy of the extracted keywords, each researcher completed keyword extraction for the papers they were responsible for. Cross-checking was then conducted to ensure the validity of the keyword extraction. Additionally, while extracting keywords from the 156 papers, terms related to resilience meaning, subfactors, and tools used for assessing the resilience of young children were organized simultaneously.

Data Analysis

To begin with, an excel file containing information on the terms, subfactors, and assessment tools used for resilience in studies on young children was utilized. The file was organized to group similar terms together, and a frequency analysis was conducted.

Next, for the keyword network analysis of resilience research on young children in Korea, the Netminer Free Trial version was employed. The trial program is free for 4 weeks and allows the collection and analysis of network data with up to 10,000 nodes (Cyram Ltd., 2023.11.11).

The keyword extraction data coded in the Excel file was imported into Netminer to derive the in-degree centrality, out-degree centrality, and betweenness centrality values. Network visualization was also performed. In keyword network analysis, the degree centrality and betweenness centrality values were derived to analyze the importance of each keyword in the

overall network (Cho, Park, & Yu, 2021). Degree centrality represents the degree to which a word is connected to other words, and the centrality value increases as the frequency of connections increases. By inputting the directionality of influence between keywords, in-degree centrality and out-degree centrality can be calculated. Betweenness centrality indicates how much a specific word is connecting between words. A higher betweenness centrality value implies that the word is frequently appearing with other key words in the network and serves as a basis for determining important words in the document (Kim, Kim, 2016).

Given the potentially complex nature of analyzing a large number of keywords simultaneously, a relative reduction in the number of keywords and the deletion of weakly connected words were carried out to enhance readability. Therefore, with reference to a similar type of study (Park, Jang and Park, 2021), only keywords with a connection degree of 3 or higher were extracted and analyzed. The basic information for keyword network analysis is summarized in Table 1.

Table 1. *Basic Research Data for Keyword Network Analysis*

Total number of articles	Total number of keywords	Total number of links	Number of unique keywords (keywords with a frequency over 3)
156	738	1715	81

Results

Resilience Terms and Subfactors Used in Korean Studies on Resilience in Young Children

Examining the terms and subfactors used in resilience research on young children in Korea, the following Table 2 provides a breakdown by terms. In the studies, the term ‘ego-resilience’ appeared in 90 articles, ‘recovery resilience’ in 29 articles, ‘resilience’ in 23 articles, and other terms such as ‘psychological health’, ‘physical health’, ‘recovery’, and ‘adaptive flexibility’ were used in varying frequencies.

Table 2. *The Term 'Resilience' and Its Sub-factors Utilized in Research on Young Children in South Korea*

<i>Term</i>	<i>Frequency</i>	<i>Subfactors</i>
Ego-resilience	64	Attachment, Initiative, Self-control, Concerned behavior
	19	Confidence in peer relationships, Self-acceptance, Family relationships, Impulse control, Optimism,
	4	Emotional resilience, Relational resilience, Resilient competence
	1	Attention, Emotional regulation ability, Self-efficacy, Empathy, Peer relationships
	1	Language, Mathematics, Physical health, Friendships, Parental relationships, General ego-resilience
	1	Personal efficacy, Acceptance of self and life
Recovery resilience	16	Emotional regulation, Impulse control, Optimism, Problem-solving ability, Empathy, Self-efficacy, Proactive challenge
	4	Internal factors in children: Self-regulation, Self-efficacy, Positive emotions, Empathetic attitude External protective factors for children: Teacher's interest and support, Teacher-child rapport, Peer group acceptance, Positive interaction between children and peers
	4	Emotional resilience, Relational resilience, Resilient competence
	2	Recovery
	1	Patience toward goals, Strengths, Sharing and cooperation, Calmness in conflicts
	1	Confidence in peer relationships, Self-acceptance, Family relationships, Impulse control, Optimism
	1	Attachment, Initiative, Self-control, Concerned behavior
Resilience	13	Attachment, Initiative, Self-control, Concerned behavior
	5	Emotional resilience, Relational resilience, Resilient competence
	2	Confidence in peer relationships, Self-acceptance, Family relationships, Impulse control, Optimism
	1	Emotional regulation, Impulse control, Optimism, Problem-solving ability, Empathy, Self-efficacy, Proactive challenge
	1	Social competence, Language skills
	1	Autonomy, Temperament, Optimism, Competence
Psychological health, Health	11	Attachment, Initiative, Self-control, Concerned behavior
Recovery	2	Recovery
Adaptive flexibility	1	Attachment, Initiative, Self-control
Total	156	

Results of Keyword Network Analysis in Korean Studies on Resilience of Young Children

The outcomes of keyword network analysis in resilience-related research on Korean young children are presented in Table 3 for centralities and Figure 1 for the sociogram of the keyword network in resilience research on Korean young children.

In Table 3, examining the In-Degree Centrality, among the top 14 keywords with the highest in-degree centrality in the network, initiative, self-control, attachment, and concerned behavior, which are sub-factors of ego-resilience, stand out. In-degree centrality in keyword network analysis indicates the importance of a keyword based on the number of directly connected neighboring keywords that influence individual keywords (Kim, Kim, 2016). Therefore, in the context of resilience research on Korean young children, studies focusing on sub-factors such as initiative, self-control, attachment, and concerned behavior as components of ego-resilience, as well as their relationships and influences on other independent variables, have been relatively abundant and have yielded statistically significant results. The in-degree centrality of keywords such as resilient competence, relational resilience, and emotional resilience can be interpreted in a similar context.

Keywords with high in-degree centrality, excluding sub-factors of resilience, include externalizing problem behavior, teacher-child conflict, teacher-child intimacy, pro-sociality, flow, and emotional regulation. In other words, there are relatively more directly connected neighboring keywords that affect young children's externalizing problem behavior, teacher-child conflict, teacher-child intimacy, pro-sociality, flow, and emotional regulation than other keywords. This indicates that aspects of young children's resilience or sub-factors of resilience significantly influence externalizing problem behavior, teacher-child conflict, teacher-child intimacy, pro-sociality, flow, and emotion regulation.

Moving on to the Out-Degree Centrality in Table 3, it is observed that ego-resilience, recovery resilience, happiness have the highest out-degree centrality. Following them are, playfulness, resilience, mothers' parenting efficacy, adjustment to ECEC centers, gender of children, psychological health, relational resilience, emotional resilience. In keyword network analysis, the more neighboring keywords an individual keyword directly influences, the higher out-degree centrality (Kim, Kim, 2016). Therefore, ego-resilience, recovery

Table 3. *Centralities of Keyword network*

In-Degree Centrality				Out-Degree Centrality			Betweenness Centrality		
Rank	Keyword	Value	Rank	Keyword	Value	Rank	Keyword	Value	
1	Initiative	0.006784	1	Ego-resilience	0.029851	1	Ego-resilience	0.000371	
2	Self-control	0.005427	2	Recovery resilience	0.016282	2	Playfulness	0.000173	
	Attachment		3	Happiness	0.012212	3	Relational resilience	0.000127	
4	Concerned behavior	0.004071	4	Playfulness	0.008141	4	Happiness	0.000082	
	Ego-resilience		5	Resilience	5	Emotional resilience	0.000040		
Externalizing problem behavior			5	Mothers' parenting efficacy	0.006784	6	Peer interaction	0.000033	
	Teacher-child conflict			Adjustment to ECEC centers		7	Resilient competence	0.000022	
Teacher-child intimacy				Gender of children		8	Self-control	0.000015	
	Pro-sociality			Psychological health		9	Adjustment to ECEC centers	0.000009	
6	Flow	0.002714	8	Relational resilience	0.005427				
	Resilient competence			Emotional resilience					
	Relational resilience								
	Emotional resilience								
	Emotional regulation								

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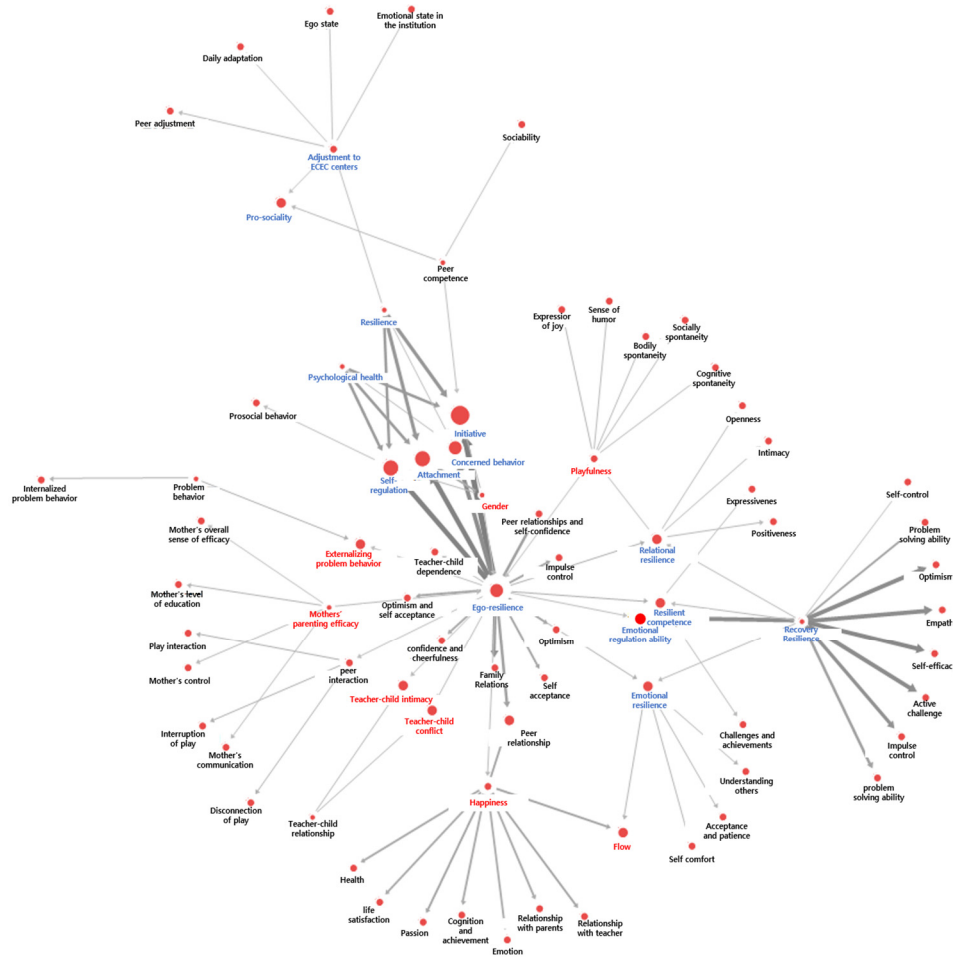


Figure 1. Sociogram of the keyword network in resilience research on Korean young children

resilience, resilience, relational resilience, and emotional resilience exhibit high out-degree centrality, suggesting that these keywords have relatively more direct keywords which influences on other keywords compared to the rest. This implies ego-resilience, recovery resilience, resilience, relational resilience, and emotional resilience are factors that significantly affect other variables in young children.

Meanwhile, it can be observed that the out-degree centrality of keywords such as children's playfulness, mother's parenting efficacy, young children's adaptation to early childhood

education institutions, children's gender, and psychological health is high in terms of their direct influence on other keywords. This suggests that these factors-children's playfulness, mother's parenting efficacy, young children's adaptation to early childhood education institutions, children's gender, and psychological health-statistically significantly impact children's resilience, as indicated by a relatively higher number of direct connections to other keywords.

Finally, examining the betweenness centrality in Table 3, it is evident that ego-resilience, playfulness, relational resilience, happiness, emotional resilience, peer interaction, competence resilience, self-control, and adaptation to early childhood education centers have centrality values in descending order. In keyword network analysis, higher betweenness centrality occurs when specific keywords are more frequently included in the shortest paths between other keywords (Kim, Kim, 2016). When looking specifically at the top 5 keywords with high betweenness centrality, ego-resilience is connected to various sub-factors of ego-resilience, relational resilience, competence resilience, emotional regulation ability, emotional resilience, happiness, teacher-child intimacy, teacher-child conflict, peer relationships, and external behavioral problems in the context of Korean research on young children's resilience. Moreover, ego-resilience is influenced by children's gender, playfulness, and maternal parenting efficacy. Without ego-resilience, the connections among these keywords are disrupted. Playfulness is a keyword influenced by relational resilience and connected to sub-factors of children's playfulness and ego-resilience. If playfulness is absent, the connections among sub-factors of playfulness, ego-resilience, and relational resilience, are disrupted. Relational resilience is a keyword influenced by ego-resilience and resilience. It is also connected to children's playfulness, openness, intimacy, and proactivity, influencing them. Without relational resilience, these connections are disrupted. Happiness is a keyword influenced by ego-resilience and peer relationships, connected to sub-factors of children's happiness and flow. Without happiness, connections among happiness's sub-factors, peer relationships, ego-resilience, and flow are disrupted. Emotional resilience is a keyword influenced by ego-resilience and recovery resilience, connected to flow, self-comfort, acceptance and patience, and understanding others. Without emotional resilience, these connections are disrupted. In that, keywords with high centrality play a mediating role, indicating that happiness, playfulness, peer interaction, and adjustment to ECEC centers

contribute to connecting resilience with other variables and sub-elements.

Discission

The aim of this study is to extract keywords related to young children's resilience in Korean research through keyword network analysis and analyze their relevance. The study seeks to explore insights into understanding young children's resilience, identify research limitations, and propose directions for future research based on the results of keyword network analysis in resilience-related studies conducted in Korea. Discussing the results derived from the keyword network analysis of resilience-related studies on young children conducted in Korea, the following key points emerge.

Firstly, an analysis of the terms used in Korean studies on young children's resilience reveals that 'ego-resilience' was the most frequently used term, followed by 'recovery resilience' and 'resilience', which appeared at a similar frequency. It is noteworthy that the term 'ego-resilience' was used with different sub-factors in more than six instances, and studies using the term 'recovery resilience' with distinct sub-factors were found in more than seven instances. Among studies using the term 'resilience', six different sets of sub-factors were identified. This means that there is a need for a redefinition of the concept and sub-factors of young children's resilience. The analysis of terminology and sub-factors used in Korean resilience studies revealed eight terms, often with different sub-factors despite using the same scale. Tools such as the Devereux Early Childhood Assessment (DECA) for 2-5-year-olds (Lebuffe, Naglieri, 1999), Resilience Factors by Reivich and Shatte (2003), Ego-Resiliency Scale (ERS) of Korean Personality Rating Scale for Children by Cho et al., (2006) and scales developed by Korean researchers (Lee, 2013; Lee, 2018) introduce a degree of inconsistency. Therefore, using the same scale while employing different terms highlights the need for a clear understanding of concepts and meanings associated with resilience-related terminology to align with the intentions of each study. The concept of young children's resilience should be comprehended by examining individual characteristics and environmental features within social contexts (Gu, 2018).

Secondly, based on the keyword network analysis results using in-degree centrality, ego-

resilience emerged as the most crucial keyword with sub-factors such as initiative, self-control, attachment, and concerned behavior. Additionally, young children's resilience or its sub-factors were found to influence externalizing problem behavior, teacher-child conflict, teacher-child intimacy, pro-sociality, flow, and emotion regulation. Based on out-degree centrality, ego-resilience, recovery resilience, and resilience, along with their sub-factors, particularly relational resilience and emotional resilience, were identified as significant keywords. Furthermore, young children's playfulness, maternal parenting efficacy, adaptation to early childhood education centers, gender, and psychological health were statistically significant factors influencing young children's resilience.

Finally, based on betweenness centrality, ego-resilience, playfulness, relational resilience, happiness, and emotional resilience play a crucial role in connecting other keywords in the network. In summary, the keyword network analysis provides insights into the interconnectedness and importance of various keywords in resilience research on Korean young children.

The insights gained from the keyword network analysis of resilience studies on Korean young children point to several implications for the direction of future research on young children's resilience. Firstly, considering a developmental contextual perspective, understanding the concept as a changing tendency in a preventative context rather than a therapeutic one is crucial (Lee, 2015). Therefore, it is necessary to measure and comprehend the concept accurately based on the researcher's specific intentions, considering whether the focus is on individual traits, social contexts, or a preventative perspective. One of the most used terms in Korean research, while ego-resilience involves the ability to control oneself and react flexibly in specific situations (Block, Block, 1980), recovery resilience encompasses both innate and environmentally developed traits, extending beyond self-regulation to factors like interpersonal relationships and positive habits (Werner, Smith, 2019). Robitaille and Naglieri (2023) continue to provide empirical discussion and specific instruments for measuring early childhood resilience, defining the concept based on the reliability and validity of resilience measures so that they can be reliably applied across time periods, populations, and researchers. Therefore, even if researchers modify the terminology of relevant young children's resilience to fit the purpose of the study, it is necessary to have an empirical basis and explanation, and researchers need to understand what constitutes a

valid concept based on the intent of the study.

Secondly, there is a call for more comprehensive research on young children's resilience. Considering the turbulent ecological transitions in early childhood, fostering resilience in young children becomes imperative for coping with daily stressors. Given the centrality of parental, teacher, peer, and institutional adaptation to resilience in our findings, it is important to consider support and coping strategies in an ecological context rather than understanding resilience in terms of individual capacities (Bronfenbrenner, 1975). In particular, because early childhood is a time when children are still in need of adult protection and care, and developmentally, it is necessary to explore children's resilience within the social and environmental context (Gu, 2018).

There is a need to expand the scope of interest and research in understanding the resilience of young children. The existing studies are limited in number, scope, methods, and age of children with a narrow focus on specific keywords. Most studies have focused on 4-5 year olds, and the variables related to young children's resilience have been measured in a quantitative way by adults such as caregivers and teachers. In particular, studies utilizing existing research tools tend to be repetitive, focusing on specific keywords. This suggests that there is a narrow focus on measuring resilience, and there is a need for more diverse research in Korea that explores the complex variables that affect children's resilience. Diversifying the methods and scope of research on young children's resilience is essential. Out of 156 papers, only one qualitative study was conducted, indicating a limited exploration of the characteristics of young children with varying resilience levels. It is also necessary to examine a diverse range of ages among the study participants. In South Korea, there is a trend toward a lower age of utilization of early childhood education institutions among young children, highlighting the need to cultivate resilience in their daily lives.

Thirdly, there is a pressing need for research that incorporates different variables and situational contexts. The 2023 PECERA International Conference, themed 'Strengthening Resilience in Children During Times of Change', underscored the importance of resilience, especially considering the diverse stressful situations young children encountered during the COVID-19 pandemic. The recent corona virus situation has been more dangerous for vulnerable populations, including children aged 2-12 years, and has raised the need to explore their characteristics and factors that promote resilience (Tso et al., 2020). Risk factors such

as pandemics pose a threat to the well-being of families and cause a range of psychosocial problems. To overcome this, some have suggested a family-centered framework that considers the influence of family members in promoting resilience through relationships, communication, positive mindset, building social support, and inter-family beliefs and relationships (Davidson et al., 2021; Gayatri et al., 2022; Prime et al., 2020)

Surprisingly, none of the studies in South Korea contextualized their findings within the pandemic, despite their relevance. In Korea, the number of studies on young children's resilience gradually increased from 14 in 2013, with an average of 18 studies conducted in 2015-2018, and then gradually decreased. Even after the pandemic, research on early childhood resilience has been limited to replicating previous studies. The early childhood period is particularly suitable for cultivating the ability to respond appropriately to various situations. Therefore, as young children are still under the protection of their families and are in the midst of an ecological transition to living in various groups outside of the family, there is a need for in-depth research on young children's resilience centered on its relevance within the context of social relationships. In addition, as modern society is faced with rapidly changing social conditions such as the development of science and technology and changes in demographics, in addition to health problems such as COVID-19, it is necessary to examine the characteristics of young children's resilience in terms of the contextual situation of young children and explore approaches to foster resilience from a preventive perspective, rather than replicating existing research.

Lastly, there is a scarcity of research on developing and validating early childhood education programs that promote resilience in young children. To gain a nuanced understanding of resilience characteristics, more qualitative research is necessary. Furthermore, there is a need for research focused on developing resilience programs for parents, teachers, and young children that consider various influencing factors and mediators. The research findings offer useful insights applicable to education and clinical practice. Considering specific keywords influencing young children's resilience can inform the development of tailored support and programs for individual children.

In conclusion, Keyword network analysis proves valuable in visualizing meaningful connections between resilience-related keywords, aiding in the identification of crucial terms. This contributes to guiding future research and program development directions. Future

research should prioritize refining the conceptualization of resilience, expanding the scope of studies, contextualizing findings within current events, and adopting diverse research methods to enhance our understanding of young children's resilience in Korea.

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