

Taiwan's adjustment measures for addressing low birthrate: A review

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Abstract: According to the population report by Taiwan's National Development Council, Taiwan's birth rate has been declining annually and is expected to enter the stage of a super-aged society in 2025. In response to the phenomenon of declining birth rates, the strategies and actions proposed or implemented by the government aim to address demographic challenges, such as declining birth rates, aging populations, and related social and economic issues. Indeed, these strategies are designed to reverse the declining birth rate and support families in navigating the challenges associated with raising children in today's society, while enhancing the quality of childcare services. The aim of this article is to review the measures implemented in Taiwan to address the challenges of declining birth rates and to offer relevant reflections to enhance the quality of childcare services.

Keywords: Adjustment measures for addressing Low birthrate, Childcare services, Preschool education, Young children.

1. Introduction

The population crisis caused by a decline in fertility and the number of births has been extensively discussed in Taiwan for more than 10 years. Taiwan's low birth rate has become a crucial topic. According to the population report by Taiwan's National Development Council, Taiwan's birth rate has been declining annually and is expected to enter the stage of a super-aged society in 2025. In the *Population Policy White Paper*, seven major strategies for addressing the declining birthrate are as follows: (1) Improving family support: Strengthening financial and social support systems for families, including subsidies for child-rearing and parental leave; (2) Enhancing childcare services: Expanding access to affordable, high-quality childcare services to alleviate the burden on parents and improve work-life balance; (3) Encouraging marriage and fertility: Promoting policies that encourage marriage and fertility, including incentives for young couples and increased support for family planning; (4) Increasing housing affordability: Implementing measures to make housing more affordable for young families, reducing the financial burden of homeownership; (5) Strengthening labor market participation: Supporting policies that promote gender equality in the workforce and create a more inclusive environment for parents to remain employed while raising children; (6) Promoting social attitudes: Shaping public perceptions and attitudes toward family life, marriage, and children to create a more family-friendly society; (7) Providing long-term care support: Ensuring sufficient long-term care for the elderly population, relieving the caregiving burden on younger generations and enabling them to focus on family life and child-rearing [1, 2].

This is a comprehensive policy document that outlines the strategies and actions proposed or implemented by the government to address demographic challenges, such as declining birthrates, aging populations, and related social and economic issues. In Taiwan, this white paper would typically include plans to support families, improve healthcare for older adults, encourage higher fertility rates, and address issues like housing affordability, workforce participation, and social services. Indeed, these strategies are designed to reverse the declining birthrate and support families in navigating the challenges associated with raising children in today's society, and enhancing the quality of childcare services [1]. The aim of this article is to review the measures implemented in Taiwan to address the challenges of declining birth rates and to offer relevant reflections in order to enhance the quality of childcare services.

2. The Meaning of Adjustment Measures for Addressing Low Birthrate

The adjustment measures for addressing low birthrate, which refer to the policies announced by the Executive Yuan on October 27, 2022, which officially came into effect on January 1, 2023. These measures serve as rolling updates to the existing "Counteracting the Declining Birthrate Program." Key components include: (1) Extending childcare subsidies and early childhood care assistance to all families, regardless of income level; (2) Increasing salaries for relevant childcare and early education personnel; (3) Improving the overall quality of childcare services [3]. The adjustment measures for addressing low birthrate, which aim to create a more comprehensive and supportive environment for child-rearing in Taiwan. The primary goals of these adjustments are to reduce the financial burden of parenting, enhance the accessibility and quality of childcare services, and encourage higher birth rates by addressing some of the key structural challenges that discourage families from having children. The core strategies include: (1) Extending childcare subsidies and early childhood care assistance to all families, regardless of income level, ensuring that financial support reaches a broader population and eliminates income-based exclusion, which is intended to make parenting more economically feasible for all; (2) Increasing salaries for relevant childcare and early education personnel, aiming to stabilize the workforce, attract qualified professionals, and reduce turnover in the early childhood care sector, thereby contributing to higher service quality; (3) Improving the overall quality of childcare services, focusing on the enhancement of facilities, staff training, and service standards to provide safer, more nurturing, and developmentally appropriate environments for young children [3, 4]. These measures are expected to have several positive impacts on society. By lessening the economic pressures on families and improving the overall childcare infrastructure, the government hopes to make it more viable for couples to have children and to better balance work and family life. Over time, this may contribute to mitigating Taiwan's declining birthrate, which has become a pressing demographic issue with far-reaching implications for economic sustainability, labor force stability, and intergenerational support systems. Moreover, by investing in early childhood care and education, these policies aim to promote children's well-being and development, ensuring that all children, regardless of socioeconomic background, have access to quality early learning experiences.

3. The Background for the Formulation of Adjustment Measures for Addressing Low Birthrate

The background for the formulation of adjustment measures for addressing low birthrate, which is rooted in the pressing demographic challenges. Key factors that have contributed to the development of such a program are:

3.1. Declining Birthrate

In 2015, adults aged 65 and older made up only 9% of the population worldwide. By 2050, they are estimated to represent 17% of the global population. The world is undergoing a demographic revolution; life expectancy has been increasing for more than two decades since 1950, and populations have increased considerably [5-7]. Nevertheless, as time progresses, Taiwan has been experiencing a significant decline in its birthrate over the years, leading to a rapidly aging population. This trend poses

challenges for the labor market, social welfare systems, and economic growth, as a shrinking younger population impacts the working-age demographic. In other words, Taiwan is facing the ongoing challenge of a declining birthrate, which not only impacts the social structure but also has a profound effect on economic development. To address this issue, the government has approached the problem from multiple angles, formulating and adjusting a series of policy measures aimed at increasing the willingness of citizens to have children while also alleviating the childcare pressures faced by families [3, 6].

3.2. Aging Population

Population ageing (the increase in the proportion of older people) and population shrinking (the overall decline in population numbers) are closely intertwined demographic trends, and when combined with rapid urbanization, they create complex challenges—and opportunities—for sustainability. In addition, the aging population places an increasing burden on healthcare, pension systems, and social support networks. The proportion of older adults in society is rising, while the younger generation, which traditionally supports older adults, is becoming smaller. Indeed, the rapid changes in the population structure of Taiwan due to declining birthrates and the aging population have increased the economic burden on workers, who have no extra time to care for young children and older adults at home. Taiwan must develop a solution for this labor shortage and determine how to efficiently utilize its labor force. A lower birthrate has serious implications for economic productivity, the sustainability of social services, and long-term national growth. With fewer children being born, there are fewer future workers to contribute to the economy and care for the aging population [8, 9].

3.3. Family and Social Challenges

Rising living costs, worsening housing affordability, increasing work-life pressures, and shifting societal norms around marriage and family are driving widespread delays and declines in childbearing. In particular, the sharp deterioration of housing affordability in advanced economies over recent decades has become a critical barrier to family formation. Without comprehensive policy interventions—such as affordable housing initiatives, family-friendly workplace reforms, and economic support for young households—these structural challenges will continue to exacerbate declining birthrates and undermine long-term demographic stability [10, 11].

3.4. Government Response

In response to these demographic shifts, the Taiwanese government has formulated and adjusted various policies to provide support for families, improve childcare services, enhance financial incentives for parents, and create a more favorable environment for raising children. This article summarizes the policy measures addressing the declining birthrate over the years in Taiwan. The policy measures addressing the declining birthrate over the years is presented in Table 1.

Table 1.
The policy measures addressing the declining birthrate over the years.

Year	Event	Policy	Objective
2008	The seven major strategies for addressing the declining birthrate in the <i>Population Policy White Paper</i>	Approve the <i>Population Policy White Paper</i> , which outlined seven major strategies and 44 specific measures to address the issue of declining birth rates.	Implement measures to increase the birth rate.
2008	The implementation plan for home-based childcare management and childcare fee subsidies	Subsidies for childcare fees for parents of children aged 0-2 who send their children to licensed caregivers due to employment	Economic subsidies for the costs incurred by childcare institutions
2013	The overall goal of the strategies to address declining birth rates	1. Enhance marriage opportunities and rebuild family values	Increase opportunities for marriage, enhance care for women during pregnancy and childbirth, and fulfill the desire to raise children. Reduce parental childcare expenses by establishing an affordable and accessible childcare system to improve the work-family balance for dual-income parents. Share the economic and opportunity costs of raising children through public support. Improve workplace environments, promote workplace equality, and enable workers to balance family and work responsibilities. Provide care for workers during childbirth and parental leave periods, along with financial support during unpaid leave. Protect children's rights and elevate the value of children, realizing the goal of recognizing children as a public good of society.
		2. Strengthen the reproductive and healthcare system.	
		3. Establish an affordable, high-quality, diverse, and accessible early childhood education and care system.	
		4. Provide financial support measures for families with young children.	
2017	Establish a Low Birth Rate Response Office and implement a public childcare system improvement plan	5. Create a family-friendly work environment.	
		6. Implement maternity leave and parental leave without pay policies	
		7. Strengthen the child protection system	
2018	Implement the "quasi-public childcare services."	Cash subsidies for families with children aged 0-3	Increase the fertility rate to 1.6–2.1
2018	Approve the "Strategies for Addressing Declining Birth Rates Plan"	1. Increase the birth rate.	Utilize diverse approaches to achieve the goal of increasing the birth rate. Develop universal and affordable childcare service policies, providing affordable, high-quality, and accessible childcare services to help all caregivers maintain continuous employment. Expand affordable early childhood education services and reduce the burden on parents. Improve the salaries of childcare staff and strengthen the management

			of childcare personnel and institutions.
		2. Achieve gender equality (Balance employment and family life)	
		3. Reduce the childcare burden on families (Accelerate the expansion of public childcare services; supplement affordable childcare through a quasi-public mechanism; and provide childrearing subsidies to achieve comprehensive care.)	
		4. Enhance the quality of infant and toddler care	
2022	Propose the "Adjustment and Planning of the Strategies for Addressing Declining Birth Rates."	Integrate policies, provide subsidies without excluding high-income individuals, and increase salary	Improve the childcare and early education environment
2023	Add new policy measures	Childcare subsidies/childcare allowances, salary increases, and reward mechanisms.	Enhance the quality of childcare services

Source: Executive [1, 12].

In conclusion, through a series of policy adjustments and support measures, the government aims to address the issue of declining birth rates, support families in fulfilling their child-rearing roles, and collaborate with families to become strong partners in childcare [3]. This will, in turn, lay a solid foundation for the country's future development.

4. The Content of Measures for Addressing Low Birthrate

4.1. Policy Goals and Outcomes

The main goal of policy formulation is to address the issue of declining birth rates, aiming to increase fertility rates through economic subsidies and improvements in the quality of childcare services.

4.2. Policy Evolution

"Policy evolution" refers to how policies change and adjust over time in response to various factors such as historical context, social needs, political environments, and economic conditions. The evolution of policies reflects how a country or region addresses internal and external challenges, influenced by different interest groups, expert advice, social movements, and more. The predecessor of Taiwan's "Declining Birth Rate Response Plan" was the successful "One-stop Childcare Policy" in Taichung City, which effectively alleviated the decline in fertility rates. Based on the experience in Taichung, the "Declining Birth Rate Response Plan" was developed, which includes increasing the availability of public early childhood education services, establishing a quasi-public mechanism, expanding childcare subsidies for children aged 0-4, and in October 2022, the "Refinement and Adjustment Measures for the Declining Birth Rate Response Plan" were announced, proposing: (1) Childcare allowances and subsidies for childcare services will not exclude high-income families; (2) Increase salaries for relevant personnel; (3) Enhance the quality of childcare services.

4.3. Policy Measures and Their Effects

4.3.1. Economic Subsidies

“Economic subsidies” refers to financial assistance or support provided by the government or other institutions to individuals, businesses, or sectors to promote certain economic activities, stabilize markets, or alleviate economic burdens. Economic subsidies are often used as a policy tool to address market failures, reduce inequality, stimulate growth, or support specific industries or social groups.

The policy alleviates the burden of child-rearing on families by providing financial subsidies, promoting work-family balance and gender equality. For example, it removes the "wealth exclusion clause" to expand the scope of benefits.

4.3.2. Enhancing the Quality of Childcare Services

“Enhancing the quality of childcare services” refers to improving the overall standards and effectiveness of childcare services, which may include: (1) Improving caregiver qualifications and training: ensuring that those providing childcare have the necessary knowledge, skills, and qualifications to support children's developmental needs; (2) Increasing resources and facilities: upgrading the physical environment and resources available to children, ensuring they are safe, engaging, and conducive to learning and development; (3) Developing child-centered practices: fostering environments where children's emotional, social, cognitive, and physical needs are met through appropriate activities, care routines, and interactions; (4) Parent and community engagement: encouraging collaboration with parents and communities to ensure childcare services are responsive to the needs of families and aligned with cultural values; (5) monitoring and assessment: regularly evaluating the quality of care through feedback, inspections, and assessments to ensure continuous improvement and adherence to established standards. In Taiwan, enhancing the quality of childcare services involves lowering the teacher-to-child ratio, increasing the salaries of childcare staff, and improving the childcare environment. These measures aim to ensure that parents can feel secure in entrusting their children to childcare services.

4.3.3. Issues in Policy Implementation

The policy was announced hastily. The policy was announced in October 2023 and took effect on January 1, 2024. The timing of the announcement was too abrupt, leaving childcare center operators unprepared.

4.3.4. Unfair Resource Allocation

The government exhibits clear unfairness in the allocation of resources between public and private childcare centers, which affects the survival of private centers and the rights of parents. In particular, there is a noticeable disparity in resource distribution between publicly operated and semi-public childcare centers. The construction and operational costs of public childcare centers are mostly borne by the government, while semi-public centers must bear the financial burden themselves. Furthermore, the use of public childcare resources should be monitored to ensure the effective distribution and application of government resources [13].

4.3.5. Most Childcare Staff Are Unclear About the Policy Formulation Process

Most childcare providers are aware that the purpose of the policy is to boost the birth rate and that it includes salary increases for childcare workers. However, they are generally less familiar with the policy's development process, which may be due to insufficient policy promotion or a lack of initiative from childcare providers to actively seek out information. Operators of private childcare centers are also not very clear about how the policy was formulated. This is because the government did not invite representatives from the childcare industry to participate during the policymaking process. Although this policy is closely related to the survival of childcare centers, operators had no involvement and therefore no opportunity to understand its development. To ensure the policy gains the recognition and

support of childcare centers, the government should invite industry representatives to participate in the process and work toward building a consensus, in hopes of securing support and cooperation for the policy's implementation.

5. Reflections

In response to the ongoing decline in birthrates, Taiwan has implemented a series of adjustment measures aimed at encouraging childbirth and supporting families with young children. These measures include expanding childcare subsidies, promoting quasi-public childcare systems, and improving the working conditions of childcare personnel. While these policies are designed to alleviate the financial burden of parenting and create a more supportive childcare environment, their impact on private childcare centers and childcare workers has been mixed.

5.1. Impact on Private Childcare Centers

Private childcare center operators generally recognize the government's intent to ease the cost of childcare for families. However, they note that policies such as universal childcare subsidies without means testing have not significantly increased or decreased enrollment numbers. Operators express concern that linking subsidies exclusively to participation in the quasi-public system may unintentionally penalize parents whose chosen centers opt out of the system, limiting parental choice and placing pressure on centers to comply with government frameworks. Furthermore, while these policies affect the viability and survival of private centers, industry representatives have often been excluded from the policymaking process. This lack of involvement has resulted in limited understanding of policy development and has created a sense of disconnect between government initiatives and on-the-ground realities. Operators argue that greater participation and dialogue are necessary to build consensus and secure cooperative policy implementation [14].

5.2. Impact on Childcare Workers

Daycare workers seek better working conditions and urging the government to play a larger role in the industry, with advocates saying childcare is a societal right best left in the public's control [15]. Childcare workers in private centers have experienced increased workloads due to heightened enrollment and stricter regulations under the quasi-public system. However, salary improvements have been modest, leading to dissatisfaction within the workforce. Workers are also expected to meet higher professional standards and engage in ongoing training, contributing to additional pressures and responsibilities. Moreover, the uncertainty faced by private centers—especially those debating participation in government programs—extends to the job stability of childcare workers. Concerns over employment security, combined with limited opportunities to contribute to policy discussions, have negatively impacted morale. These issues highlight the need for supportive measures that address both working conditions and the professional growth of childcare staff [14].

6. Conclusions

Since July 2018, the government has promoted an array of measures to counter declining birth rates, and in 2024 it launched version 2.0 of its national child care policy for children ages 0-6. This policy implements various upgraded measures such as enlarging affordable education and care service capacities, increasing child care subsidies, creating more preschool classes dedicated to enrolling two-year-olds, continuing to grant childrearing allowances, reducing preschool student-teacher ratios, trialing flexible parental leave without pay, and raising salaries for child care and education personnel [16].

Taiwan's adjustment measures for addressing the low birthrate reflect a proactive approach to family support and childcare accessibility. The positive correlation between subsidy policies and increased childcare enrollment aligns with theories, which highlight the influence of government policy on family decisions, and Bronfenbrenner [17] ecological systems theory, which emphasizes the role of

external system support in child development. In recent years, Taiwan has faced the challenge of a declining birth rate, which not only affects the social structure but also has a profound impact on economic development. To address this issue, the government has taken action from multiple levels, formulating and adjusting a series of policies aimed at increasing the fertility willingness of its citizens while also alleviating the parenting pressure on families. Overall, the measures for addressing the low birth rate are intended to solve the issue of declining fertility rates by providing economic subsidies and improving the quality of child care to ease the burden on families. However, there are still many issues regarding the effectiveness and fairness of the policy implementation, which require further improvement and adjustment. The government should place more emphasis on the fair distribution of resources and strengthen communication and collaboration with all parties involved during the policy formulation and implementation process to achieve the desired outcomes.

In conclusions, the world is undergoing rapid changes. Early childhood education (ECE) is evolving rapidly, shaped by various positive and negative trends. These changes influence teaching methodologies, curriculum design, and the overall learning experience for young children. The preschool education in Taiwan must change with the times to inject new energy into teaching, ensure continuity across curricula, and facilitate the development of curricula in schools. In addition, school education must incorporate social issues in teaching to meet the individual children's development needs. In children, substantial brain development occurs in the developmental period from birth to 6 years old, and this period represents a crucial window for educational interventions. Optimal early childhood development, characterized by health, safety, and effective learning, provides the foundation for children to realize their full potential in adulthood and contribute to economic, social, and civic spheres. Facing the impact of a declining birthrate, early childhood education and care (ECEC) should play a pivotal role in promoting equity, social justice, inclusive economic growth, and sustainable development, substantially benefiting children and society [6, 18-24].

7. Recommendations

This analysis of Taiwan's child care policy and its efforts to address declining birth rates provides a thoughtful reflection on the multifaceted approach to family support and childrearing. The policy measures—such as increasing subsidies, expanding child care services, and improving teacher-student ratios—align with ecological systems theory, recognizing the importance of external support systems in shaping family decisions and child development. However, as we mention, there are challenges related to the policy's effectiveness and fairness, which highlight the need for continuous evaluation and improvement. In fact, since July 2018, Taiwan's government has promoted an array of measures to counter declining birth rates, and in 2024 it launched version 2.0 of its national child care policy for children ages 0-6. This policy implements various upgraded measures such as enlarging affordable education and care service capacities, increasing child care subsidies, creating more preschool classes dedicated to enrolling two-year-olds, continuing to grant childrearing allowances, reducing preschool student-teacher ratios, trialing flexible parental leave without pay, and raising salaries for child care and education personnel [16].

Taiwan's adjustment measures for addressing the low birthrate reflect a proactive approach to family support and childcare accessibility. The positive correlation between subsidy policies and increased childcare enrollment aligns with theories, which highlight the influence of government policy on family decisions, and Bronfenbrenner [17] ecological systems theory, which emphasizes the role of external system support in child development. In recent years, Taiwan has faced the challenge of a declining birth rate, which not only affects the social structure but also has a profound impact on economic development. To address this issue, the government has taken action from multiple levels, formulating and adjusting a series of policies aimed at increasing the fertility willingness of its citizens while also alleviating the parenting pressure on families. Overall, the measures for addressing the low birth rate are intended to solve the issue of declining fertility rates by providing economic subsidies and

improving the quality of child care to ease the burden on families. However, there are still many issues regarding the effectiveness and fairness of the policy implementation, which require further improvement and adjustment. The government should place more emphasis on the fair distribution of resources and strengthen communication and collaboration with all parties involved during the policy formulation and implementation process to achieve the desired outcomes.

Finally, increasing the birth rate requires a comprehensive strategy that addresses economic, social, and cultural factors influencing family planning decisions. Some potential measures are as follows: (1) Extend paid maternity and paternity leave to support working parents; (2) Increase affordable and high-quality childcare services, making it easier for parents to balance work and family life; (3) Offer housing subsidies or priority access to larger homes for families with children; (4) Provide programs that educate young adults on parenting, relationships, and work-life balance; (5) Ensure affordable prenatal and postnatal care; (6) Strengthen intergenerational and community-based support systems; (7) Encourage policies that support immigrant families who may contribute to population growth; (8) Ensure adequate support for immigrant parents in raising children in a new country.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] Executive Yuan, *Population policy white paper*. Taipei City: Executive Yuan, 2013.
- [2] M.-C. Hsu, Y.-M. Chiang, Y.-H. Shih, C.-Y. Juan, and Y.-Y. Liu, "The influence of the low birthrate on Taiwan's preschool enrollment and strategies implemented to cope with this influence," *Humanities and Social Sciences Letters*, vol. 13, no. 1, pp. 285-300, 2025. <https://doi.org/10.18488/73.v13i1.4101>
- [3] Executive Yuan, "Adjustment plan for the counteracting the declining birthrate program," Retrieved: <https://www.ey.gov.tw/Page/448DE008087A1971/277d91f0-4bc3-4f36-8b99-c9a65a04e15f>. [Accessed 2 March 2025], 2025a.
- [4] Y.-H. Shih, "Learning for children in an educational enrichment: a perspective derived from Taiwan's Early Childhood Education & Care Curriculum Framework," *Frontiers in Education*, vol. 9, p. 1412972, 2024b. <https://doi.org/10.3389/educ.2024.1412972>
- [5] L. Bar-Tur, "Fostering well-being in the elderly: Translating theories on positive aging to practical approaches," *Frontiers in Medicine*, vol. 8, p. 517226, 2021. <https://doi.org/10.3389/fmed.2021.517226>
- [6] Y.-H. Shih, "Case study of intergenerational learning courses implemented in a preschool: perceptions of young children and senior citizens," *Educational Gerontology*, vol. 50, no. 1, pp. 11-26, 2024a. <https://doi.org/10.1080/03601277.2023.2216089>
- [7] K. Pillemer et al., "The benefits of intergenerational wisdom-sharing: A randomized controlled study," *International Journal of Environmental Research and Public Health*, vol. 19, no. 7, p. 4010, 2022. <https://doi.org/10.3390/ijerph19074010>
- [8] M. P. Jarzelski, T. Elmqvist, and A. Gasparatos, "Ageing and population shrinking: implications for sustainability in the urban century," *Urban Sustain*, vol. 1, no. 1, pp. 1-17, 2021. <https://doi.org/10.1038/s42949-021-00023-z>
- [9] Y.-H. Shih, C.-C. Wu, and C.-F. Chung, "Implementing intergenerational learning in a preschool: A case study from Taiwan," *Educational Gerontology*, vol. 48, no. 12, pp. 565-585, 2022. <https://doi.org/10.1080/03601277.2022.2053035>
- [10] A. E. Ilori, "Housing market and affordability: A panel analysis of OECD countries," *Available at SSRN 4623269*, pp. 1-15, 2017. <http://dx.doi.org/10.2139/ssrn.4623269>
- [11] Y. Lee, P. A. Kemp, and V. J. Reina, "Drivers of housing (un) affordability in the advanced economies: A review and new evidence," *Housing Studies*, vol. 37, no. 10, pp. 1739-1752, 2022. <https://doi.org/10.1080/02673037.2022.2123623>
- [12] Executive Yuan, *Taiwan's declining birth rate response plan (2018-2025)*. Taipei City: Executive Yuan, 2024.

- [13] S. W. Liu, "Reflections on the policy of quasi-public childcare centers," *Taiwan Education Review Monthly*, vol. 10, no. 3, pp. 177-181, 2021.
- [14] H. Y. Wu, "A study on the factors influencing the retention of employees in daycare centers in Hsinchu County and Hsinchu City," Unpublished Master's Thesis, Minghsin University of Science and Technology, Hsinchu, Taiwan, 2024.
- [15] J. Chin, "Daycare workers demand improved work situation," Retrieved: <https://www.taipeitimes.com/News/taiwan/archives/2023/10/29/2003808384>. [Accessed April 6, 2024], 2025.
- [16] Executive Yuan, "National child care policy 2.0 for ages 0-6," Retrieved: [https://english.ey.gov.tw/News3/9E5540D592A5FECD/7b033800-d295-4a7a-8fba-dfbf617142d6\(accessed\)](https://english.ey.gov.tw/News3/9E5540D592A5FECD/7b033800-d295-4a7a-8fba-dfbf617142d6(accessed)). [Accessed 2 March 2025], 2025b.
- [17] U. Bronfenbrenner, *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press, 1979.
- [18] M. J. Haslip and D. F. Gullo, "The changing landscape of early childhood education: Implications for policy and practice," *Early Childhood Education Journal*, vol. 46, pp. 249-264, 2018. <https://doi.org/10.1007/s10643-017-0865-7>
- [19] Y.-L. Shao and Y.-H. Shih, "The effects of interactive electronic picture books on young children's oral expression skills," *International Journal of Education and Practice*, vol. 12, no. 2, pp. 312-323, 2024.
- [20] UNESCO, "Why early childhood care and education matters," Retrieved: <https://www.unesco.org/en/articles/why-early-childhood-care-and-education-matters>. [Accessed April 6, 2024], 2024.
- [21] R. J. Wang and Y. H. Shih, "What are universities pursuing? A review of the Quacquarelli Symonds world university rankings of Taiwanese universities (2021-2023)," *Frontiers in Education*, vol. 8, p. 1185817, 2023. <https://doi.org/10.3389/educ.2023.1185817>
- [22] C.-C. Wu, "Constructing counting and arithmetic learning trajectories for kindergarteners: A preliminary investigation in Taiwan," *Children*, vol. 9, no. 12, p. 1994, 2022. <https://doi.org/10.3390/children9121994>
- [23] C. C. Wu, "Effects of achievement goals on learning interests and mathematics performances for kindergarteners," *Frontiers in Psychology*, vol. 14, p. 1156098, 2023. <https://doi.org/10.3389/fpsyg.2023.1156098>
- [24] Y. H. Ye and Y.-H. Shih, "Development of John Dewey's educational philosophy and its implications for children's education," *Policy Futures in Education*, vol. 19, no. 8, pp. 877-890, 2021. <https://doi.org/10.1177/1478210320987678>