Comparison of Early Childhood Education Programs between Eastern and Western Countries

Xiaochen Zhou[1,a], Xue Lu[2,b,*]

[1] Department of Elementary Education,San Francisco State University, San Francisco, 94132,America
[2*] Corresponding author: School of Education, Huanggang Normal University, Huanggang , 438000, China

Abstract. With the rapid development of China's economy and society, the core of national competitiveness has shifted from material elements to talents, systems, and innovation. Ultimately, it is a talent problem, that is, the problem of improving population quality. Only by striving to improve the quality of the population can we leverage our strong advantages in human resources and transform China from a populous country to a human capital powerhouse. Early childhood development and education are important ways and key links to improve population quality. This paper adopts literature research, empirical analysis, and quantitative analysis methods to conduct a comparative analysis of education programs in Eastern and Western countries around the topic of early childhood development education. The results indicate that the early childhood education and care (ECEC) policies and programs in Western countries have similar origins, both aimed at better protecting children, providing early education to children with special needs, and ensuring the social participation of mothers in the labor force. Although there are similarities in the formulation and implementation of program goals and policies, there are significant differences in other aspects. However, China's early education faces problems such as insufficient local financial support, high costs, unequal access to opportunities, and significant differences in the quality of services. In the future, it is necessary to increase investment in early childhood development education, and the whole society should participate and carry out early childhood development education together.

1. Introduction

Research in the fields of early childhood development and education has shown that the experiences and environments children are exposed to during their first six years greatly influence their physical and brain development, subsequently impacting their cognitive and socio-emotional development in later stages of life [1]. Factors such as inadequate nutrition and healthcare, limited opportunities for meaningful interpersonal interactions, and lack of access to early education can all contribute to lower levels of education and personal achievement, resulting in diminished lifelong benefits and potential engagement in socially destructive behaviors [2]. Therefore, it is crucial to prioritize the critical period of 0-6 years old, adhere to the principles of individual cognitive development, and implement purposeful and planned education and training, along with adequate dietary nutrition, to facilitate the establishment of positive parent-child and social relationships. This approach will promote children's physical and mental health, laying a firm foundation for their future development.

According to the 2010 survey report on the current situation and needs of early childhood education by the All China Women's Federation, the landscape of Chinese children's early education exhibits several noteworthy characteristics. Firstly, there is a continual improvement in the understanding of early development education among parents, who have become more actively engaged and cognizant of its importance [3]. Furthermore, the concept of early education undergoes constant updates, resulting in increasingly diverse content. As young parents assume the role of primary care-givers and decision-makers in early education, they shoulder significant responsibilities for their children's well-being, education, and social development [4]. However, caregivers generally lack scientific parenting skills, leading to various challenges faced by parents in the implementation of early education [5]. Furthermore, there exists a significant disparity between the service offerings of early education institutions and the demands of parents. With the advancement of the market economy and the elevation of living standards, parental awareness of early education has increased, leading to the emergence and growth of early education institutions. However, there remains an imbalance in early childhood development education between different regions and urban and rural areas. As both urban and rural families increasingly embrace the concept of early education and deepen their understanding of its benefits, the demand for early education becomes pronounced.

[a]carol.zhou1021@hotmail.com
[b]luxue1026@sina.com

Based on an extensive review of literature and theoretical analysis, this study ex-amines the objectives, policy formulation, accessibility, implementation models, quality standards, benefits, and impacts of early childhood education programs in both China and Western countries. It aims to investigate the current state of children's sensory perception, movement, memory, language, cognitive abilities, and social development, as well as the influence of the family environment on these aspects. The findings from a large-scale household survey conducted among eligible children serve as a valuable empirical basis for decision-making, enabling the government to comprehensively enhance the developmental level of children in China.

2. Methodology

Through a comprehensive analysis of domestic and foreign research literature, it has been determined that children's early development varies based on factors such as their region (urban or rural), gender, and ethnicity. Additionally, variables such as birth weight, whether they are left behind, parental and caregiver education level, and family income play a significant role in children's early development. Factors such as good parenting practices, enrollment in kindergartens and parent-child kindergartens, and regular health check-ups also contribute to positive outcomes in children's early development. To further investigate these factors, a multiple regression model was employed to analyze the development data of children aged 37-48 months from 15 sample counties. This analysis aims to explore the influence of independent variables on the dependent variable, determine their significance, and identify which variables have a significant impact.

Firstly, a regression analysis is conducted to examine the influence of various fac-tors on children's development outcomes. These factors include the child's age (measured in months), birth weight (obtained from the child's birth health certificate), gender, family size, whether they are left behind (indicating whether they are under parental care), family income, rural household registration, ethnic minority status, and the education level of the mother and primary caregiver. These variables relate to the characteristics of the family. The predictive indicators mentioned account for 33% of changes in height, 35% of changes in weight, 21% of changes in social development outcomes, and 44% of changes in cognitive development outcomes.

Table 1 presents the results of the regression analysis, indicating the significant im-pact of prenatal care on children's early development. It is observed that being female is negatively associated with weight and height, while family size is negatively correlated with weight, height, and social development. Furthermore, there is a positive correlation between the education level of caregivers who have completed at least middle school education and children's height. Additionally, a positive correlation is found between a family income of over 20,000 yuan and children's social development. Moreover, there is a positive relationship between family income, maternal or caregiver education level, and children's cognitive abilities. Specifically, higher family income corresponds to higher cognitive abilities in children, and the cognitive development of the child is reinforced with a higher education level of the mother or caregiver. This relationship is attributed to caregivers with higher cultural levels being more receptive to new ideas, capable of adopting scientific parenting concepts, implementing diverse early education models, satisfying the emotional needs of children, and fostering the formation and holistic development of a healthy personality.

Table 1. The significant results of regression analysis. Standard error in parentheses.

	Weight	Height	Social development	Recognition development
Birth Weight	0.0457(0.105)	0.964(0.216)	0.023(0.015)	0.000(0.008)
girl	-0.437(0.197)	-1.229(0.405)	-0.010(0.028)	0.032(0.014)
Family scale	-0.018(0.080)	-0.165(0.164)	-0.024(0.011)	-0.002(0.006)
Incoming of family from 2000 to 6000	0.175(0.605)	1.113(1.244)	0.036(0.086)	0.105(0.044)
Incoming of family from 15000 to 20000	0.847(0.571)	0.997(1.173)	0.071(0..081)	0.140(0.041)
Incoming of family above 20000	0.451(0.563)	1.473(0.158)	0.137(0.080)	0.101(0.041)
minority nationality	0.517(0.520)	2.338(1.068)	0.022(0.074)	0.014(0.038)
Mother's education level- junior college	0.854(1.035)	-1.172(2.128)	0.033(0.148)	0.174(0.075)
Education level of care-givers-primary school	0.396(0.420)	1.233(0.863)	-0.045(0.060)	0.066(0.030)
Education level of care-givers-middle school	0.436(0.463)	1.726(0.952)	-0.082(0.066)	0.104(0.034)
Education level of care-givers-high school	0.387(0.572)	1.497(1.716)	-0.082(0.066)	0.104(0.034)
Education level of care-givers-college	0.648(0.977)	3.067(2.007)	-0.049(0.139)	0.126(0.071)

According to the existing literature, several factors have been identified as potential predictors of children's development outcomes. These factors include the participation in kindergarten or parent-child classes, regular health check-ups, parenting practices (such as the frequency of engaging in play activities, reading with children, watching TV together, as well as the methods of discipline used), dietary habits (assessed by the frequency of consuming meat, eggs, milk, fruits, and vegetables), and the sources of caregivers' knowledge about early childhood development

3. Results

3.1. Early childhood education programs in Western countries

The current objectives of Early Childhood Education and Care (ECEC) programs in Western countries can be broadly categorized into two levels. Firstly, for children between the ages of 3 and 6, education is defined to encompass both socialization and school readiness, with care being an integral part of the educational goals. This is especially emphasized in the preschool programs. Secondly, for children under 3 years old, the primary focus of these programs is to provide care for them while their mothers are employed outside the home. In recent years, as the implementation of ECEC programs has progressed, additional goals have gained prominence. These include early intervention education that is implemented during the formative years to prevent the emergence and progression of later problems, compensatory education initiatives such as the Head Start program in the United States, as well as other considerations related to social employment in countries like France and the United States.

The development of Early Childhood Education and Care (ECEC) policies varies across countries and regions. In certain countries, ECEC policies are established by the central government. For instance, in France, all ECEC programs are formulated at the national level, whereas in Italy, only programs for children aged 3 to 6 are formulated nationally. In federal countries like the United States, Canada, and Germany, the central government sets forth a framework for ECEC policies, while specific policies and measures are determined by individual states or provinces. Conversely, in countries like Denmark and Sweden, local governments are responsible for formulating all ECEC policies.

The early and mid-1990s saw a high coverage rate, primarily due to the education department's programs targeting preschool children aged 3-6. In France, Belgium, and Italy, 95-99% of children in this age group have access to voluntary and free pre-school education programs that operate for 7-8 hours a day on regular working days. Furthermore, additional services are provided to the children during lunchtime, before and after school, and even during holidays. In countries where the ECEC program is primarily aimed at children whose parents work outside the home, a fee is typically charged. These programs have a moderate to high coverage rate. In such countries, where the proportion of working women is relatively high, early education programs are available throughout the year and on all working days. Denmark, Sweden, and Finland have coverage rates of 83%, 79%, and 73% respectively. In these three countries, as part of a public policy, the government ensures that all children aged 1 and above with working parents have access to some form of affiliated care center (refer to Table 2).

Table 2. Coverage of ECEC schemes in different Western countries.

Nations	Cover rete, %		school age
France	Age 0-3	Age 3-6	
Belgium	29	99	6
Italy	30	97	6
Denmark	6	95	3
Sweden	58	83	7
Finland	48	79	7
New Zealand	45	73	7
Germany	5	85	6
Spain	5	84	6
Austria	3	80	6
the Nether-lands	8	71	5
America	26	71	6
England	2	60	5
Ireland	2	55	6
Japan	21	52	6
Portugal	12	48	6

The proportion of private programs sponsored by religious institutions or other types of non-profit organizations, such as parent alliances, voluntary groups, business groups, and women's organizations, varies significantly across countries. Private pro-grams play a central role in the implementation systems of the UK, USA, Germany, and the Netherlands, whereas they hold less importance in Nordic countries. Nevertheless, due to recent restrictions on government-sponsored ECEC programs in some countries, the number of ECEC programs offered by private non-profit organizations is rapidly increasing. Currently, the majority of ECEC programs are implemented through various centers or specialized institutions, some of which are located in or near primary schools. These centers or institutions are designed to provide children with suitable and ample physical environments and outdoor spaces for activities. However, apart from Sweden, Italy, and Spain, most countries do not adequately cater to very young children under the age of 3 in these centers, particularly those that are solely regulated by the government. This factor typically plays a crucial role in influencing parents' choices. Nevertheless, only France has thus far implemented a specific cash plan, and the United States provides partial subsidies to individuals who care for children at home through tax incentives.

3.2. The impact of early childhood development education on children's development outcomes

Survey data demonstrates that the implementation of early childhood development education has the potential

to mitigate the influence of family and genetic factors, enhance children's physical fitness, and foster their social and cognitive abilities. Various approaches to early childhood development education yield differing impacts on children's developmental outcomes. Enrolling in kindergarten or participating in parent child care programs has a positive effect on children's early development. Kindergartens possess several distinctive features compared to families, including activity venues, facilities, communal living, nutritious diets, professional teachers, and standardized teaching methods. Regular health check-ups serve as a crucial measure to prevent illnesses and ensure the healthy growth of children. Physical examinations aid in understanding children's growth and development, providing timely guidance and prevention measures. Parents can acquire accurate knowledge about feeding, particularly regarding complementary foods, through physical examinations and also receive reminders for regular vaccinations. Effective parenting practices significantly contribute to children's social and cognitive development. The research team evaluated parenting practices in families based on behaviors such as playing with children and engaging in games. Games serve as crucial activities in children's daily lives, as proper indoor and outdoor games facilitate physical development, enhance coordination, balance, and flexibility, promote sensory, language, and imagination development, and support the gradual acquisition of social and moral norms as well as mastery of activity skills.

Scientific dietary habits play a significant role in promoting the physical development of children. The period from 0-3 years of age is crucial for physical growth and development, during which the brain and nervous system experience rapid development while various functions gradually mature and improve. Acquiring parenting knowledge and information and adopting a scientific parenting approach can facilitate children's early development. The lack of daily caregiving skills for 0-3-year-old children poses the biggest challenge for parents. Common issues in ordinary families include different parenting concepts and a lack of scientific knowledge about feeding. Typically, parents resort to self-education through television, books, magazines, the internet, outdoor media, or seek advice from friends and relatives. Among these communication channels, television has a more direct and vivid influence on children's cognitive development. Therefore, promoting and disseminating parenting knowledge through suitable means and enhancing the caregivery's level of parenting have a positive impact on children's cognitive development.

4. Conclusions

Through the examination of children's early development status, this study investigates the impact of demographic factors and early childhood education on children's developmental outcomes. The following conclusions can be drawn: Firstly, there are disparities in the developmental outcomes of children based on different regions (urban and rural), genders, ethnic groups (Han or ethnic minorities), and whether they are left-behind children. Family economic status, parental education level, and other factors have an influence on early development. Secondly, when factors such as "attendance in kindergarten", "parenting practices", "a balanced diet", and "regular health check-ups" are taken into account, family income, the mother's and caregiver's cultural level no longer significantly affect children's weight, height, social cognitive development, etc. Thirdly, the implementation of early childhood development education can address genetic inequality, enhance children's physical fitness, and promote their social and cognitive abilities.

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