

Analysis of the Educational Environment in Kindergartens for Gender Equality and Preschoolers' Gender-Role Development

Jing Li^{1*}, Mengping Yang^{1,2}

¹Suzhou Early Childhood Education College, Suzhou, China

²Soochow University, Suzhou, China

Email: *962173761@qq.com

How to cite this paper: Li, J., & Yang, M. P. (2022). Analysis of the Educational Environment in Kindergartens for Gender Equality and Preschoolers' Gender-Role Development. *Creative Education*, 13, 3981-3995.

<https://doi.org/10.4236/ce.2022.1312254>

Received: November 4, 2022

Accepted: December 27, 2022

Published: December 30, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

The preschool period is critical for gender equality education. Through analyzing the results of the questionnaires on gender equality awareness and gender equality education answered by 492 preschool teachers from 18 kindergartens, this study is aimed at having a basic understanding of the status quo of the educational environment in kindergartens for gender equality. Additionally, the questionnaires on preschoolers' gender role behaviors were answered by 3712 parents to understand the status quo and characteristics of preschool children's gender-role development. On this basis, the relationship between the educational environment in kindergartens for gender equality and preschoolers' gender-role development was illuminated. The study found that: preschool teachers' awareness of gender equality was in the middle to upper level overall and there were age differences. The overall performance of gender equality education in kindergartens was good, and the aspects of gender integration and promotion need to be improved. Preschool teachers' education and gender equality awareness significantly and positively predicted the level of kindergarten gender equality education. There are gender differences in the distribution of different gender roles among preschool children, and gender roles are in constant development. Therefore, it is recommended that kindergartens create a gender-equal environment, deepen the promotion of gender equality in society, highlight gender-equal education topics in family education guidance, support teachers' learning and development, and provide systematic post-service training for preschool teachers on gender equality education.

Keywords

Kindergarten, Preschool Teachers, Gender Equality Education, Gender Roles

1. Introduction

As education plays an important role in promoting gender equality, the pre-school period, when young children's ability to identify and understand one's gender identity is developing rapidly, is critical for gender equality education (Wood, 2013). Based on gender concepts in a specific social context, gender education is a process of social education, in which the educated develop gender cognition, form gender conception, and act in accordance with their identified gender roles through getting social influence on their gender cognition, gender conception, and gendered behaviors (Hyde et al., 2019). Studies have shown that the development of preschool children's gender roles is mainly influenced by the physiological basis, family education, kindergarten education, mass media, and other factors (Hilliard & Liben, 2010; Pasterskiet al., 2015; Lomazzi et al., 2018). Hence, kindergarten is the place where preschool children's knowledge of gender roles expands and deepens, and preschool teachers are the professionals who fulfill the responsibilities of kindergarten education, thus becoming an important factor in determining the quality of kindergarten education.

Gender equality education for preschool children refers to the education aiming to promote gender equality through the environment, daily life, games, educational activities, etc. Influenced by the cognitive level and learning characteristics of preschool children, gender equality education in kindergartens should be developed through creating a gender-equal environment in the kindergarten, promoting preschool teachers to develop gender equality awareness and behaviors, and finally influencing preschool children through their daily activities in kindergartens. Preschool teachers' concept of gender equality education has a direct and important impact on gender equality education in kindergartens (Miralles-Cardona et al., 2021). Studies have found that when teachers use gendered language to intervene in the group play of 3 - 5-year-old children, it will significantly increase children's gendered behaviors. Teachers who have gender biases in their teaching process are unlikely to conduce to the development of right gender cognition as well as gender equality awareness among preschoolers (Aina & Cameron, 2011).

Awareness of gender equality is a social concept and for preschool children, it is the perception of gender. Limited by their understanding and language skills, it is difficult to express in words but directly through behaviors, i.e., gendered behaviors. Research has shown that toys, games, etc. in early childhood will influence and express children's gender expectations, gender roles, and learning of social skills (Halpern & Perry-Jenkins, 2016). As children grow up, the more gender stereotyped suggestions they are exposed to, the more prone they are to gender stereotypes. Gender stereotypes come most rigidly in young children between the age of 6 and 7 when they believe that behaving in a way that is inconsistent with their gender is wrong and as unacceptable as engaging in unethical behaviors (Meyer & Gelman, 2016).

This study will try to present the status quo of gender education in kindergar-

tens by surveying preschool teachers' gender equality awareness and gender education practices, and expound on the characteristics of preschoolers' gender-role development through the observation and assessment of their gender role behaviors. On this basis, the relationship between the status quo of gender education in kindergartens and preschool children's gender-role development will be illuminated, which is likely to help enrich the research content of gender education in kindergartens and provide reference and suggestions for the promotion of gender equality education in kindergartens and the development of preschoolers' gender roles.

2. Research Methods

2.1. Research Object

This study employed a combination of convenience sampling and stratified sampling, with a total of 516 preschool teachers from 18 kindergartens as the research object, and distributed questionnaires through Wenjuanxing, an online platform for data collection in mainland China. 516 questionnaires were collected in total, of which 492 were valid, with a recovery rate of 95.3%. Besides, a total of 3928 children and their parents from one class of each junior, middle and senior part of 18 kindergartens were selected as the research object, and the electronic questionnaires were distributed to the parents of the children. A total of 3928 questionnaires were collected, of which 3712 were valid, with a recovery rate of 94.5%.

2.2. Research Tool

2.2.1. Gender Role Attitudes Scale

In this study, the Gender Role Attitudes Scale (GARS) (García-Cueto et al., 2015) was used to gauge preschool teachers' awareness of gender equality. The scale mainly reflects people's gender role attitudes (equality or discrimination) in the context of family, social interrelations, and employment. There are 20 questions on a 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). The higher the score, the stronger the gender equality awareness of the respondent. Cronbach's alpha is 0.76, and Pearson's correlation test shows that the three dimensions of family, social interrelations, and employment are significantly and positively correlated with the total scale, with the correlation coefficients of 0.65, 0.70, and 0.82 respectively, indicating that the scale has good construct validity.

2.2.2. Gender Equality Education Scale for Kindergartens

This study used the Questionnaire on Gender Equality Education in Kindergartens compiled by Qiu et al. (Qiu et al., 2019) to measure the level of gender equality education in kindergartens. Featuring self-assessment, the questionnaires were completed by preschool teachers. There are 26 questions on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire is divided into four dimensions: "Acceptance and Protection", "Inte-

gration and Promotion”, “Support in the Kindergarten” and “Gender Neutrality”. The Cronbach alpha coefficients of the total scale and the questionnaires on the four dimensions are 0.74, 0.75, 0.51, 0.72, and 0.34 respectively. Additionally, the internal consistency reliability and the split-half reliability of the total scale are 0.74 and 0.68 respectively, indicating its reliability.

2.2.3. Gender Role Behavior Scale for Preschool Children

This survey developed its own Gender Role Behavior Scale for Preschool Children to gauge preschoolers’ gender roles. The 26-question scale is divided into one dimension of masculinity with 12 questions about behaviors traditionally considered more appropriate for boys (e.g., children imitating male characters on television or in films), and the other dimension of femininity with 14 questions about behaviors traditionally considered more appropriate for girls (e.g., children wearing things like towels around their waists as skirts). Each question is scored on a 5-point Likert scale (“never” = 1, “occasionally” = 2, “sometimes” = 3, “usually” = 4, and “always” = 5) and answered by parents rating the frequency with which their children engage in the described behaviors. The Cronbach’s alpha coefficients of the total scale and the two dimensions are 0.77, 0.92, and 0.92 respectively. The median of the masculine dimension is 3.08, and the feminine dimension, 2.14. By means of the median partition based methods, children with certain scores on the two dimensions are classified as androgyny (scoring above the median on both dimensions), masculinity (scoring above the median on the masculine dimension while below the median on the feminine dimension), femininity (scoring below the median on the masculine dimension while above the median on the feminine dimension) and undifferentiation (scoring below the median on both dimensions).

2.3. Data Analysis

SPSS for Windows 22.0 was used to analyze the data, specifically, to calculate the descriptive statistics, frequencies, and percentages of categorical variables, as well as the mean and standard deviations of metric variables. Metric variables were studied through Independent Samples t-test and one-way analysis of variance (ANOVA) at the 0.05 significance level.

3. Research Results

3.1. The Status Quo of the Educational Environment in Kindergartens for Gender Equality

3.1.1. The Status Quo of Preschool Teachers’ Gender Equality Awareness

The descriptive statistics showed that the mean score of the GARS was 3.93. Furthermore, according to the classification criteria of Symptom Checklist 90, SCL-90, the five-point scale was classified as follows: 1 to 1.5 as “worst”, 1.5 to 2.5, “poor”, 2.5 to 3.5, “average”, 3.5 to 4.5, “good”, and 4.5 to 5, “excellent”, as shown in **Table 1**. As the results showed, on the whole, the awareness of gender equality among preschool teachers was in the middle to upper range, with only

12.2% of teachers reaching the excellent level.

As can be seen from **Table 2**, there are significant gender differences among parents of preschool children in their scores of awareness of gender equality on each dimension and the total scale, with mothers being far more concerned about gender equality than fathers. In terms of age, there are striking differences in gender equality awareness among parents at different ages, with parents under 30 having a higher awareness of gender equality overall, remarkably higher than parents of other age groups. As for the educational background, parents with a master's degree or above, as a whole, tend to have a considerably higher awareness of gender equality than parents with other educational backgrounds. In terms of the household income level, parents whose monthly household income nudges 15,000 or above generally have a higher awareness of gender equality in the fields of family, social interrelations, and employment than parents with a monthly household income of 10,000 yuan and below.

According to **Table 3**, there is no significant difference in scores of gender equality awareness on each dimension and the total scale among teachers in

Table 1. Gender equality consciousness of preschool teachers.

	worst	poor	average	good	excellent
Fields of family	0.6	3.0	10.0	53.0	33.3
Social interrelations	0	1.0	5.5	60.8	32.7
Employment	0.4	6.1	41.7	41.5	10.4
Awareness of gender equality	0	0.2	15.4	72.2	12.2

Table 2. Difference analysis of parents' awareness of gender equality.

	Age	Educational background	Household income level
Fields of family	a > b; a > c; b > c	◎	◎
Social interrelations	a > c; b > c	a < b; a < c; a < d; b < c; b < d	a < c; a < d; b < c; b < d
Employment	a > b; a > c; b > c	a < c; a < d; b < c	a < c; a < d
Awareness of gender equality	a > b; a > c; b > c	a < b; a < c; a < d; b < c; b < d	a < c; a < d

Note: 1) Age: a = under 30 years old; b = 30 - 40 years old; c = 41 - 50 years old; d = over 50 years old. 2) Educational background: a = technical secondary school or below; b = junior college; c = undergraduate; d = master degree or above. 3) Income level: a = 10,000 and below; b = 10,000 - 15,000; c = 15,000 - 20,000; d = 20,000 or more. The ◎ in the table indicates that there is no significant difference between the levels under this variable.

Table 3. Difference analysis of teachers' awareness of gender equality.

	Age	Educational background	Household income level
Fields of family	a > b; a > c; b > c	◎	◎
Social interrelations	a > c; b > c	a < b; a < c; a < d; b < c; b < d	a < c; a < d; b < c; b < d
Employment	a > b; a > c; b > c	a < c; a < d; b < c	a < c; a < d
Awareness of gender equality	a > b; a > c; b > c	a < b; a < c; a < d; b < c; b < d	a < c; a < d

Note: 1) Age: a = under 30 years old; b = 30 - 40 years old; c = 41 - 50 years old; d = over 50 years old. 2) Educational background: a = technical secondary school or below; b = junior college; c = undergraduate; d = master degree or above. 3) Income level: a = 10,000 and below; b = 10,000 - 15,000; c = 15,000 - 20,000; d = 20,000 or more. The ◎ in the table indicates that there is no significant difference between the levels under this variable.

terms of gender and educational background, except in terms of age. As to age, teachers under the age of 30 generally have a statistically higher awareness of gender equality than teachers in other age groups, specifically, significantly higher than teachers aged 40 to 49 and over in terms of family, than teachers aged 50 and over in terms of social interrelations, and than teachers in other age groups in terms of employment; teachers aged 30 to 39 also have a higher awareness of gender equality overall, which is prominently higher than teachers above the age group, especially higher than teachers aged 40 to 49 in the aspect of family.

3.1.2. Gender Equality Education in Kindergartens and Its Influencing Factors

The descriptive statistics of gender equality education in kindergartens showed a score of 3.97 with a standard deviation of 0.39, indicating that on the whole, gender equality education in kindergartens is at a good level (79.7%) with 10.1% and 10.2% of kindergartens at the excellent and intermediate level respectively.

As for the variance between the dimensions of gender equality education in kindergartens, One-Way ANOVA revealed significant differences across the dimensions ($F(3, 1473) = 230.54$). The Scheffe Test further illustrated that kindergartens scored significantly lower in the dimension of Integration and Promotion ($M = 3.48$, $SD = 0.97$) than in the dimensions of Acceptance and Protection ($M = 4.69$, $SD = 0.40$), Support in the Kindergarten ($M = 3.91$, $SD = 0.80$) and Gender Neutrality ($M = 3.79$, $SD = 0.73$). There is no remarkable difference between scores on the dimensions of Support in the Kindergarten and Gender Neutrality, but both are strikingly lower than that on the dimension of Acceptance and Protection. This means that there are significant differences in the scores on the four dimensions of gender equality education, with the highest

scores on the Acceptance and Protection dimension and the lowest scores on the Integration and Promotion dimension.

As can be seen from **Table 4**, hierarchical regression was employed to analyze the factors affecting gender equality education in kindergartens. In the multiple linear regression analysis, gender, age, seniority, educational background, professional title, and teachers' awareness of gender equality were used as the independent variables, and gender equality education in kindergartens, the dependent variable. In the first level, the background factors that may affect gender equality education in kindergartens were included, such as teachers' gender, age, seniority, educational background, and professional title; the second level embraced the awareness of gender equality among preschool teachers.

According to the results shown in Model 1, **Table 4**, the background factors can explain 3% of the variation in the dependent variables of gender equality education in kindergartens. Besides, teachers' educational backgrounds have a distinct positive predictive effect on gender equality education, that is, the more educated the teachers, the more gender-neutral their education. When teachers' awareness of gender equality was included in the model, the explained variation in model 2 increased to 7%, with an R^2 change of 5% (F -statistic = 6.07). At this point, the positive predictive effect of teachers' educational backgrounds on gender equality education increased. Moreover, awareness of gender equality is an important positive predictor of gender equality education in kindergartens, i.e., the higher the teachers' awareness of gender equality, the more equal and gender neutral their practice of education.

Table 4. Multi-level regression analysis of influencing factors of gender equality education in kindergartens.

	Model 1		Model 2	
	β	t	β	t
Gender	-0.01	-0.17	0.01	0.27
Age	-0.03	-0.22	0.05	0.34
seniority	0.07	-0.51	-0.06	-0.45
educational background	0.13	2.56*	0.14	2.77**
professional title	0.03	0.41	-0.01	-0.09
awareness of gender equality			0.23	4.89***
R^2	0.03		0.07	
Adj R^2	0.03		0.05	
F	2.39*		6.07***	

* means the probability is less than or equal to 0.05, ** means the probability is less than or equal to 0.01, and the *** means the probability is less than or equal to 0.001.

3.2. The Status Quo of Preschoolers' Gender-Role Development

3.2.1. The Comparative Analysis of Preschoolers' Gender Traits

The comparison of the gender traits of preschoolers of different sex is shown in **Table 5**, which illuminates that boys have enormously more masculine traits ($M = 3.68$, $SD = 0.64$) than feminine ones ($M = 1.78$, $SD = 0.35$), while girls' masculinity is lower ($M = 2.48$, $SD = 0.52$) than their femininity ($M = 2.93$, $SD = 0.56$). Additionally, boys are evidently more masculine than girls and observably less feminine than girls. It is suggested that preschool children primarily possess gender-specific traits that correspond to their own sex.

3.2.2. The Distribution of Gender Roles of Preschoolers of Different Sex

The distribution of preschool children's gender roles is shown in **Table 6**. It can be seen that there is a notable difference in the proportion of boys and girls with androgynous gender traits. The proportion of boys with androgynous traits (6.7%) is lower than that of girls with androgynous traits (9.2%). Moreover, a significant difference can be perceived in the proportion of boys and girls with masculine traits, with a much higher proportion of boys (74.4%) than girls (1%). Likewise, there are prominent differences in the proportion of boys and girls with the feminine and undifferentiated gender roles respectively, with the proportion of boys with feminine traits (0.6%) being much lower than that of girls with feminine traits (77.9%) while the proportion of boys with undifferentiated gender roles being markedly higher (18.3%) than of girls (11.9%).

3.2.3. The Development and Distribution of Gender Roles of Preschoolers at Different Ages

Table 7 also implies that there are significant differences in the distribution of preschool children's gender roles between different age groups. This is reflected in the fact that the highest proportion of children in the junior classes is the

Table 5. Difference analysis of children's gender traits.

	Masculine traits		Feminine traits	
	M	SD	M	SD
Boy	3.68	0.64	1.78	0.35
Girl	2.48	0.52	2.93	0.56

Table 6. Distribution of gender role types of children of different genders.

	Androgynous traits	Masculine traits	Feminine traits	Undifferentiated gender
Boy	9.2%	74.4%	77.9%	18.3%
Girl	6.7%	1%	0.6%	11.9%

Table 7. Distribution of gender role types of children at different ages.

	Androgynous traits	Masculine traits	Feminine traits	Undifferentiated gender
Junior class	9.4%	40.4%	32.5%	17.7%
Middle class	7.9%	42.3%	36.5%	13.3%
Senior class	6.2%	40.8%	37.8%	15.2%

masculine type (40.4%), followed by the feminine (32.5%), undifferentiated (17.7%), and androgynous types (9.4%). In the middle class, the highest proportion of children is the masculine type (42.3%), followed by the feminine (36.5%), undifferentiated (13.3%), and androgynous types (7.9%). In the senior classes, the proportion of masculinity is the highest (40.8%), followed by femininity (37.8%), undifferentiation (15.2%), and androgyny (6.2%). Overall, the distribution of children's gender roles tends to be bipolar.

Although there are certain similarities in the distribution trend of gender roles of preschoolers in the junior, middle and senior classes, the comparison of the androgynous type among classes notes that the proportions of the androgynous type vary conspicuously among the junior, middle and senior classes, with the highest proportion in the junior classes (9.4%) and the lowest one in the senior classes (6.2%). Furthermore, the proportions of the masculine type in the junior, middle and senior classes are comparable. However, there are noticeable differences in the proportion of the feminine and undifferentiated types among the junior, middle and senior classes, with the highest proportion of the feminine type in the senior class (37.8%), the lowest proportion of the undifferentiated in the middle class (13.3%) and the lowest proportion of the feminine (32.5%) and the highest proportion of the undifferentiated (17.7%) in the junior class.

3.3. The Relationship between Educational Environment in Kindergartens for Gender Equality and Preschoolers' Gender Roles

This study suggests that the awareness of gender equality among preschool teachers significantly and positively predicts their level of gender equality education. The overall level of gender equality education of the teachers in one kindergarten can further be used to reflect the level of that kindergarten in terms of gender equality education. On this basis, kindergartens with scores of gender education ranking in the top 27% are classified as the high score group, the bottom 27%, as the low score group, and in-between, the average group. The distribution of children's gender roles among the different groups is shown in **Table 8**, illustrating that there is no dramatic difference in the distribution of children's gender roles among the different levels of gender equality education nor in the distribution of the different types of gender roles among the three levels.

Table 8. The relationship between gender equality education in kindergartens and children's gender roles.

	Androgynous traits	Masculine traits	Feminine traits	Undifferentiated gender
Low score group	8.4%	42.1%	33.9%	15.6%
Average group	8.2%	42.1%	35.3%	14.4%
High score group	7.0%	39.3%	37.1%	16.6%

4. Conclusion

4.1 On the Whole, Preschool Teachers' Awareness of Gender Equality Is at an Above-Average Level, Varying with Age

This study found, firstly, that teachers' awareness of gender equality was above the average overall: teachers acquitted themselves well in the areas of family and social interrelations while badly in the area of employment. Secondly, a teacher's gender made little difference in his or her awareness of gender equality, which may result from the composition of the respondents of this study, with only 12 male teachers (2.4%). Thus, the result was not representative enough and needs to be further examined. Thirdly, the age of preschool teachers mainly accounted for their different levels of gender equality awareness, specifically reflected in the higher awareness of gender equality among young teachers. This fact can be attributed to two factors: first, as society is constantly evolving, younger teachers are endowed with more opportunities to receive the latest educational ideas and thus become more open-minded; moreover, the awareness of gender equality among young teachers has been raised due to social and cultural progress and the rapid dissemination of ideas such as gender equality. Therefore, in the process of in-service training, special attention should be paid to older teachers, whose traditional gender conceptions are likely to be deeply rooted.

4.2. On the Whole, Kindergartens Perform Well in the Education of Gender Equality while There Is Room for Improvement in Gender Integration and Promotion

The kindergartens surveyed generally performed well in the education of gender equality, nearly 80% of whose average scores on gender equality education held a relatively pretty level. The dimensions with the highest and the lowest scores were "Acceptance and Protection" and "Integration and Promotion" respectively. "Acceptance and Protection" refers to teachers' promotion of respect and acceptance of the differences and individual choices of children of both sexes in terms of curriculum, classroom interactions, and environment creation. The curriculum and environment creation of the teachers tend to be made explicit and closely related to their educational aims and teaching programs (Hu et al., 2020). Besides, the teachers are able to adjust their practices of gender education in a timely manner, thus scoring higher. The "Integration and Promotion" dimen-

sion refers to teachers' attention to avoiding sex-based stratification and segregation and increasing opportunities for intersexual integration or activities in their daily teaching and living environments. In this dimension, teachers' sensitivity to gender equality in their daily teaching activities is taken into account, such as whether they are able to impose educational impact on gender equality in their daily teaching arrangements spontaneously and silently. Nevertheless, most teachers are unaware of the possible impact of sex-based separation on children, and when grouping children for play, they do so by sex for the sake of convenience. As a result, kindergartens' educational practices in gender equality get a relatively low score on the "Integration and Facilitation" dimension.

4.3. Preschool Teachers' Educational Backgrounds and Awareness of Gender Equality Distinctly and Positively Predict the Level of Gender Equality Education in Kindergartens

According to the study, teachers with a bachelor's or master's degree tend to have a higher level of gender education than those with an associate or bachelor's degree. The possible reasons are as follows. First, the more educated teachers are, the more access they have to a richer and more systematic knowledge about gender, and the more capable they are to master methods of gender equality education. Second, it may be credited to the open mind and the relatively higher level of gender equality awareness of the teachers who are more educated, so that they can carry out more gender equality education in practice.

Awareness of gender equality is a necessary prerequisite for gender equality education (Aikman et al., 2011). Teachers with high awareness of gender equality are more sensitive to gender inequalities, thus they will make a conscious effort to examine their own words and deeds, and pay more attention to promoting gender equality in the interaction between teachers and children. Additionally, they also possess the capacity to make effective use of teaching resources to achieve more equal resource distribution and give boys and girls equal opportunities to participate in learning.

4.4. There Are Gender Differences in the Distribution of Gender Roles among Preschoolers, Suggesting that Their Gender Roles Are Still Developing

It can be learned from the study that the masculine gender role is prevalent among boys, so is the feminine one among girls, which indicates that traditional gender roles are still prevalent among preschoolers. This may give the credit to the fact that early childhood is a critical period for gender identity that underlies the development of gender roles. Young children develop their own gender awareness mainly through observation and imitation, as well as the understanding of adults' requirements. As a result, children in early childhood begin to play traditional gender roles that somehow reflect their gender identities. Moreover, the proportion of boys with undifferentiated gender roles is significantly higher than

that of girls while the proportion of boys with androgynous gender roles is explicitly lower than that of girls, which may be related to the growth law of young children of different sex. Generally speaking, in early childhood, girls develop physically, mentally, and cognitively earlier than boys, so girls may have a better understanding and development of gender roles than boys. The superiority of girls over boys in the development of the androgynous gender role may also owe much to the fact that society is more tolerant of girls' gender role development.

Additionally, a decline in the proportion of children with the androgynous gender role with the growth of grade is found in the comparison across age groups. This may be influenced by gender stereotypes, whose influence on social judgments of young children aged 3 - 6 reaches its greatest extent when they are around the age of 6. In other words, younger children may not be dramatically influenced by gender stereotypes. Nonetheless, as they get older, they receive more information about traditional gender role expectations and thus become more profoundly influenced, finally developing from initially unwitting incomprehension to conscious identification until they develop the desired gender role behavior.

Although the overall distribution trend is similar across age groups, it is evident that the proportions of preschool children with androgynous and undifferentiated gender roles tend to decline with age while the proportion of the feminized increases. In the senior classes, the proportions of masculine and feminine types are relatively high while the proportions of the androgynous and undifferentiated are relatively low, suggesting that throughout the preschool period, preschoolers' gender roles are in the process of development with full potential for change. With the enrichment of life experiences and gender education by preschool teachers and parents, they would have a more flexible command of gender. Therefore, the development of preschool children's gender roles should be dealt with from a developmental perspective.

5. Suggestions

It is recommended to design a graded intervention strategy of gender equality education for preschoolers from three levels: administrative system, school system, and family system, as shown in **Figure 1**. First, the administrative system, which mainly involves such relevant agencies as the education administrative department and All-China Women's Federation, should play the role of training on gender equality education for preschool teachers in the school system through expert guidance and resource integration to create an educational atmosphere of gender equality for kindergartens. At the same time, through resource integration, manuals on gender-equal parenting in early childhood can be compiled for distribution to parents to popularize the importance and specific methods of gender equality education at the early childhood stage. Second, within the school system, in order to incorporate education on gender equality into the cooperative education between the kindergarten and the family, kindergartens can help

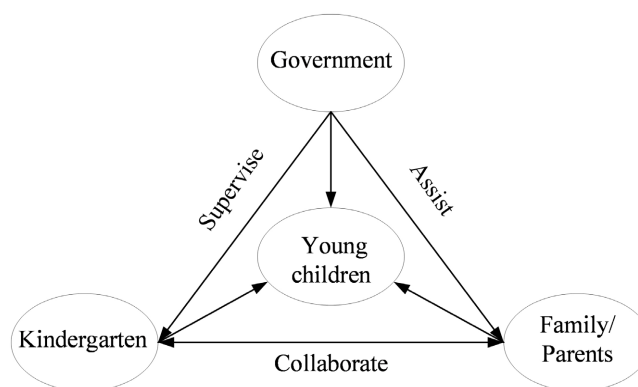


Figure 1. Framework for early childhood gender equality education.

parents learn the importance and methods of family education on gender equality for preschoolers through parent-child activities, family education guidance, resource recommendations, etc. Last but not least, within the family system, parents should also take the initiative to recognize the necessity of education on gender equality and the importance of creating a gender-equal environment at home.

5.1. Creating a Gender-Equal Environment in Kindergartens So As to Promote Gender Equality in Society

The individual's awareness of gender equality underlies gender equality on the social level, which, in turn, influences individuals' awareness of social equality. Teachers' gender biases in the field of employment will implicitly affect children's judgment of their own abilities and the development of early interests. Kindergarten authorities should make constant efforts to create a gender-equal environment in kindergartens and raise preschool teachers' awareness of gender equality, so as to influence children subtly through their daily activities in kindergartens, thereby contributing to preschool education on gender equality for children.

5.2. Kindergartens Should Highlight the Issue of Education on Gender Equality in Family Education Guidance

Preschool teachers not only directly influence the formation and development of preschoolers' awareness of gender equality, but also pose indirect influence on them by endorsing the development of their parents. Guided by the concept of cooperative education between the kindergarten and the family, kindergarten should play the leading role in the family education guidance for preschoolers. As professional educators, preschool teachers should be adept at bridging the differences in educational philosophies with preschoolers' parents and promoting scientific and modern educational concepts of gender roles. By providing parents with apposite gender concepts and ideas about gender equality, and developing parents' sensitivity to gender issues, preschool teachers can play their part in helping parents develop gender-equal parenting attitudes and promote

the educational practice of gender equality in home education.

5.3. Providing Systematic In-Service Training for Preschool Teachers on Gender Equality Education for Preschoolers

Preschool teachers have not received systematic learning about “gender equality” and “preschool education on gender equality”, either in the pre-service or in-service period. In order to raise awareness of gender equality among preschoolers as well as to make preschool teachers more qualified to play the leading role in gender equality education, it is necessary to offer teachers adequate and appropriate support for their training and development. The in-service training system for education on gender equality for teachers can be constructed with the help of third-party institutions or relevant professional faculty from universities. In the case of limited resources, the training objects should be targeted specifically, with the preschool teachers in the middle age group being the optimal choice since teachers in this age group still have a strong motivation to absorb new knowledge, certain practical education experience, as well as distinct influence in kindergarten. Additionally, they can be the pioneering minority to bring along the majority to practice education on gender equality.

Acknowledgements

This paper is one of the research results of “Construction and Implementation of Gender Education Curriculum in Higher Vocational Preschool Education from the Perspective of Comprehensive Sex Education” (project No.: D/2021/01/01) and “Research on the Training Path of” Double-Qualified “Teachers in College Preschool Education Based on the Cooperation between Colleges and Kindergartens” (project No.: SGJGB0236). funded by the 2021 annual project of the 14th five year plan for education and science of Jiangsu Province and “Research on the relationship between gender roles of preschool teachers and children’s intersexualization Education” funded by the fifth “333 Project” of the Jiangsu Province in 2022.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Aikman, S., Halai, A., & Rubagiza, J. (2011). Conceptualising Gender Equality in Research on Education Quality. *Comparative Education*, 47, 45-60.
<https://doi.org/10.1080/03050068.2011.541675>
- Aina, O. E., & Cameron, P. A. (2011). Why Does Gender Matter? Counteracting Stereotypes with Young Children. *Dimensions of Early Childhood*, 39, 11-19.
- García-Cueto, E., Rodríguez-Díaz, F. J., Bringas-Molleda, C., López-Cepero, J., Paíno-Quesada, S., & Rodríguez-Franco, L. (2015). Development of the Gender Role Attitudes Scale (GRAS) amongst Young Spanish People. *International Journal of Clinical and*

- Health Psychology*, 15, 61-68. <https://doi.org/10.1016/j.ijchp.2014.10.004>
- Halpern, H. P., & Perry-Jenkins, M. (2016). Parents' Gender Ideology and Gendered Behavior as Predictors of Children's Gender-Role Attitudes: A Longitudinal Exploration. *Sex Roles*, 74, 527-542. <https://doi.org/10.1007/s11199-015-0539-0>
- Hilliard, L. J., & Liben, L. S. (2010). Differing Levels of Gender Salience in Preschool Classrooms: Effects on Children's Gender Attitudes and Intergroup Bias. *Child Development*, 81, 1787-1798. <https://doi.org/10.1111/j.1467-8624.2010.01510.x>
- Hu, J., Yang, M., Jin, X., & Wang, X. (2020). Research on the Relationship between Preschool Teachers' Gender Roles and Bisexual Education—Based on the Comparison of Male and Female Teachers. *Education Research Monthly*, 10, 52-57+64.
- Hyde, J. S., Bigler, R. S., Joel, D., Tate, C. C., & van Anders, S. M. (2019). The Future of Sex and Gender in Psychology: Five Challenges to the Gender Binary. *American Psychologist*, 74, 171-193. <https://doi.org/10.1037/amp0000307>
- Lomazzi, V., Israel, S., & Crespi, I. (2018). Gender Equality in Europe and the Effect of Work-Family Balance Policies on Gender-Role Attitudes. *Social Sciences*, 8, Article No. 5. <https://doi.org/10.3390/socsci8010005>
- Meyer, M., & Gelman, S. A. (2016). Gender Essentialism in Children and Parents: Implications for the Development of Gender Stereotyping and Gender-Typed Preferences. *Sex Roles*, 75, 409-421. <https://doi.org/10.1007/s11199-016-0646-6>
- Miralles-Cardona, C., Chiner, E., & Cardona-Moltó, M. C. (2021). Educating Prospective Teachers for a Sustainable Gender Equality Practice: Survey Design and Validation of a Self-Efficacy Scale. *International Journal of Sustainability in Higher Education*, 23, 379-403. <https://doi.org/10.1108/IJSHE-06-2020-0204>
- Pasterski, V., Zucker, K. J., Hindmarsh, P. C., Hughes, I. A., Acerini, C., Spencer, D., Neufeld, S., & Hines, M. (2015). Increased Cross-Gender Identification Independent of Gender Role Behavior in Girls with Congenital Adrenal Hyperplasia: Results from a Standardized Assessment of 4-to 11-Year-Old Children. *Archives of Sexual Behavior*, 44, 1363-1375. <https://doi.org/10.1007/s10508-014-0385-0>
- Qiu, X., Wang, L., Niu, Y., & Zhang, W. (2019). A Questionnaire on Children's Gender Equality Education in Kindergartens in Beijing. *Journal of China Women's University*, 31, 110-116.
- Wood, E. A. (2013). *Play, Learning and the Early Childhood Curriculum* (pp. 1-208). SAGE Publications.