

A study on the relationship between gender stereotypes of early childhood teachers and androgyny education

-- Take the Yangtze River Delta region as an example.

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Abstract. Studies have shown that gender stereotypes have already appeared in children two years of age. As the central place for children's socialization, kindergarten teachers' gender stereotypes will substantially impact children's future studies and work. As one of China's most economically developed regions, the Yangtze River Delta region has richer educational resources than other regions. Some new educational concepts will be implemented earlier in the Yangtze River Delta region. As a relatively cutting-edge research field in preschool education, androgyny education has been implemented and developed to a certain extent in the Yangtze River Delta region. Therefore, this study took the Yangtze River Delta region as an example to find out the relationship between the gender stereotypes of early childhood teachers and androgyny education. A total of 67 teachers participated in this study. An adapted questionnaire was used to explore the relationship between teachers' gender stereotypes and androgyny education. This study used empirical data to demonstrate that gender stereotypes of early childhood teachers in the Yangtze River Delta region were negatively related to androgyny education. Thus, when gender stereotypes of early childhood teachers were strong, they were less likely to implement androgyny education. In other words, teachers can mitigate their stereotypes by implementing androgyny education.

Keywords: Gender stereotypes, early childhood teacher, androgyny education.

1. Introduction

Social categories have an excellent functional value for forming conceptually rich categories that help people better understand social attributes and the broad knowledge that constitutes human life [1]. However, social categorization can harm people's understanding of a concept without flexibility. Gender is a social classification that represents people's understanding of male and female society's roles, identities, and behaviors [2]. As gender research has historically been poorly studied, the definition of gender has also changed. Nevertheless, for a long time, people used to divide gender from biological and sociological perspectives. In biology, gender divides people into males and females based on genetics and physiology. However, at the social level, gender is more defined in terms of gender roles, gender identity, and gender relations. Stereotypes are generalizations and summaries of the characteristics of a group of people in society. They are fixed perceptions that significantly influence people's perceptions and behaviors [3]. Gender stereotypes are the expectations, demands, and perceptions most people have of men or women regarding their behaviors and personality traits. Programme for International Student Assessment (PISA) found that boys scored only five points higher than girls in math and two points lower than girls in science. However, boys were more than twice as likely as girls to expect to become scientists or engineers [4]. Gender stereotypes have both negative and positive aspects. However, combining stereotypes of one's identity with those of one's social group may have considerable long-term consequences [5]. Teachers always assume that they treat students of different genders equally, but this is not the case [6]. In today's kindergartens in China, gender inequality in treating children by early childhood teachers is expected, which can have severe consequences. Early childhood teachers' gender stereotypes have an essential impact on children's future development. Kindergarten is a place where young children are socialized and where teachers are expected to educate them in a gender-neutral way [7]. Teachers are among the most critical populations with a high degree of authority and a long contact time. Teachers not only

directly influence students through their educational activities, but the gender stereotypes they display in their actions also serve as role models for students to emulate [8]. Given that early childhood teachers are significant social others for children other than their parents, gender stereotypes of teachers can significantly impact children.

Socio-environmental factors affect psychological development indirectly through biological maturation [9]. They also act directly on the person's psychology and contribute to the different socialization processes of the different genders. Therefore, gender stereotypes are more likely influenced by the sociocultural environment. Changing teachers' gender stereotypes through specific effective educational strategies is possible. Experimental research by psychologist Bem has shown that androgyny personalities outperform sex-typed individuals [10]. Androgyny education is a new model of education based on social, economic and cultural trends, which aims to develop individuals with androgyny personality qualities [11]. Gender education is based on identifying and internalising one's biological and psychological gender. Individuals can draw on the best qualities of individuals of different genders. For example, girls can be strong and brave, and boys can be gentle and delicate. It is a new way of making choices for oneself, away from the traditional stereotypes of gender. There is a paucity of previous research on androgyny education, and research on the relationship between gender stereotypes and androgyny education is an area that has not been studied before. Therefore, the author in this study hopes to explore the relationship between the two through empirical research and provide theoretical and practical implications for future research.

2. Methods

2.1 Participants

Sixty-seven (67) early childhood teachers from the Yangtze River Delta region took part in this survey. 59 (88.06%) were female, and 8(11.94%) were male. Teachers range in age from 18 to over 45 years old. The most significant proportion of teachers was between ages 25-34, at 44.78%, followed by those aged 18-24, at 41.79%, and the minor proportion of teachers over 45, at 5.97%. Nearly 79.10% had bachelor's degrees, 14.93% had associate degrees, and 5.97% possessed postgraduate degrees. Participants had different teaching experiences: a majority of the participants (65.67%) claimed they have less than three years of teaching, teachers with 4 to 6 years of teaching experience and with more than or equal to 10 years were counted four 13.43% and 16.42% respectively. Participants with 7 to 9 years of teaching experience were counted the least, which is 4.48%. Most respondents (79.1%) claimed their schools were in urban areas, while 20.9% were in rural areas. 68.66% of participants were from public schools, and 31.34% were from private schools. The findings are presented in Table 1.

Table 1. Demographic information on early childhood teachers in the Yangtze River Delta region

Number	Variables	Classification	Percentage (%)
1	gender	male	11.94
		female	88.06
2	age	18-24	41.79
		25-34	44.78
		35-44	7.46
		≥45	5.97
3	Level of education	Associate degree	14.93
		Bachelor degree	79.10
		Postgraduate degree	5.97
4	Year of teaching	≤3	65.67
		4-6	13.43
		4-9	4.48
		≥10	16.42
5	School location	Rural	20.90
		City	79.10
6	School Ownership	Public	68.66
		Private	31.34

2.2 Questionnaire

The data was collected from early childhood teachers in China's Yangtze River Delta region. Wenjuanxing was used to collect data related to this study online, conduct a preliminary review of the recovered questionnaires, eliminate blank and invalid questionnaires, and input and code valid questionnaires. This paper's questionnaire focused on the relationship between gender stereotypes and androgyny education. This questionnaire draws on the awareness of gender-stereotyped beliefs questionnaire by Ayodeji Ifegbesan and the androgyny education questionnaire for preschool teachers compiled by Xueping Wang in 2014 [12]. The questionnaire consisted of three sections: (1) demographic information, (2) awareness of gender-stereotypes beliefs on early childhood teachers (3) Androgyny education perceptions and approaches of early childhood teachers

2.2.1 Demographic information:

This section included six questions about early childhood teachers' demographic information such as gender, age, level of education, year of teaching, school location and school ownership.

2.2.2 Awareness of gender-stereotypes beliefs on early childhood teachers:

This section assessed reported beliefs by using a Likert-type scale. Teachers were asked to state to what extent the statement reflects their personal beliefs out of ten gender-stereotyped beliefs. The awareness of gender-stereotypes beliefs was scored with the responses progressing from one through five for strongly agree (SA), agree (A), undecided (UD), disagree (D) and strongly disagree (SD), respectively (1-strongly disagree, 2-disagree, 3-undecided, 4-agree, 5-strongly agree). The internal consistency reliability alpha was .76 after a pilot test.

2.2.3 Androgyny education perceptions and approaches of early childhood teachers

There were 16 statements rated on a four-point scale, with five possible responses to each statement (1-always, 2-frequently, 3-occasionally, 4-never). The androgyny education questionnaire of early childhood teachers was designed from three dimensions: teachers' androgyny education perceptions, behaviors, and organization form of androgyny education activities. The teachers' perceptions of androgyny education were reflected in their conceptions of gender role education, i.e. teachers' understanding and attitude towards the development of gender and character of boys and girls. Teachers' androgyny education behaviors are reflected in their daily language, activity guidance, and classroom management, such as teachers' guidance and intervention in children's play and regional activities, teachers' daily classroom management tasks, and teachers' praise activities. Early childhood teachers use various approaches to organize androgyny education, including group teaching activities, corner activities and outdoor activities.

2.3 Data analytic tools

All returned survey questionnaires were coded on a statistical package for social science version 27.0 (SPSS) and excel, while answers to the open-ended item were transcribed verbatim.

3. Results

3.1 Correlations between early childhood teachers' gender stereotypes and androgyny education

Table 2. Correlations between gender stereotypes of early childhood teachers and androgyny education.

	Gender stereotypes	Androgyny education
Gender stereotypes	1	-.416**
Androgyny education	-.416**	1

Note: *p < .05. **p < .01. ***p < .001.

Bivariate correlations between gender stereotypes and androgyny were displayed in Table 2. The gender stereotypes of early childhood teachers were moderately correlated with androgyny education.

There was a negative correlation between early childhood teachers' gender stereotypes and androgyny education, indicating that the higher the gender stereotype score, the less likely the teacher was to implement androgyny education. It also indicated that the lower the gender stereotype score, the more likely the teacher was to implement androgyny education. In order to better analyze the correlation between gender stereotypes and different dimensions of androgyny education, this study analyzed the correlation between gender stereotypes and three dimensions of androgyny education.

3.2 Correlations between early childhood teachers' gender stereotypes and three dimensions of androgyny education

Table 3. Correlations between gender stereotypes of early childhood teachers and three dimensions of androgyny education.

	Gender stereotypes	The perception of androgyny education	How to organize activities for androgyny education	Androgyny education behaviors
Gender stereotypes	1	-.395**	-.097	-.366**
The perception of androgyny education	-.395**	1	.166	.136
How to organize activities for androgyny education	-.097	.166	1	.010
Androgyny education behaviors	-.366**	.136	.010	1

Note: *p < .05. **p < .01. ***p < .001.

A series of Pearson product-moment correlations were conducted between gender stereotypes of early childhood teachers and three dimensions of androgyny education. Negative correlations were found among several androgyny education variables and the gender stereotypes variables. In particular, gender stereotypes of early childhood teachers were moderately correlated with perceptions of androgyny education, weakly correlated with androgyny education behaviors, and very weakly correlated with how to organize activities for androgyny education. This suggests that the higher the gender stereotyping of teachers, the less likely they are to implement androgyny education perceptions. This also suggests that the way teachers organize activities to implement androgyny education and the behavior of implementing androgyny education has little to do with gender stereotypes. Findings are presented in Table 3.

3.3 The impact of demographic information on early childhood teachers' gender stereotypes

Table 4. The impact of demographic information on early childhood teachers' gender stereotypes

Source	Type III Sum of Squares	df	M	F	Sig
Corrected Model	13.360 ^a	28	.477	2.088	.018
Intercept	123.737	1	123.737	541.141	.000
Gender	.384	1	.384	1.681	.203
Age	.740	3	.247	1.079	.370
Level of education	.561	2	.281	1.228	.304
Year of teaching	.249	3	.083	.363	.780
School location	.949	1	.949	4.153	.049
School ownership	.097	1	.097	.425	.519

This author used a multi-factor ANOVA to examine the impact of six aspects of demographic information on early education teachers' gender stereotypes. The results from the data were shown in Table 4. The results showed that the location of school affect the stereotype of early childhood

teachers, while gender, age, level of education, year of education and school ownership had little effect on gender stereotypes.

3.4 The impact of demographic information on androgyny education

A multi-factor ANOVA was used to analyze the impact of demographic information on androgyny education, and the results of the data were presented in Table 5.

Table 5. The impact of demographic information on androgyny education

Source	Type III Sum of Squares	df	M	F	Sig
Corrected Model	4.046 ^a	28	.145	1.859	.038
Intercept	144.615	1	144.615	1860.633	.000
Gender	.146	1	.146	1.884	.178
Age	.124	3	.041	.532	.663
Level of education	.136	2	.068	.876	.425
Year of teaching	.441	3	.147	1.892	.147
School location	.021	1	.021	.276	.602
School ownership	.044	1	.044	.560	.459

As can be seen from Table 5, the six variables of demographic information did not have a significant impact on teachers' implementation of androgyny education.

4. Discussion

This study found that early childhood teachers' gender stereotypes influence their implementation of androgyny education. When early childhood teachers have high levels of gender stereotyping, it may be more challenging to implement androgyny education due to entrenched perceptions. Therefore, it is essential to pay attention to possible gender stereotypes in education and create an environment where students can grow up without gender bias. There are many causes of gender stereotypes in early childhood teachers, such as the culture they receive and the influence of their families. However, when teachers are aware that their gender stereotypes may have specific adverse effects, they can be motivated to some extent to think about how to eliminate and mitigate the adverse effects of gender stereotypes.

When early childhood teachers have lower levels of gender stereotyping, they are more likely to be inclusive of gender, leading to a greater willingness to accommodate the behavior of gender-diverse children and thus implement androgyny education. In kindergartens, early childhood teachers are the ones children learn from and imitate. Therefore, their words and actions directly or indirectly impact children. Some teachers are accustomed to leading by example and may consciously develop their ideas about androgyny education but may not yet produce actual behavior. In today's kindergartens in China, gender stereotypes are becoming better understood, and many kindergartens are already developing their teachers' concepts of androgyny education through different activities. When teachers have such concepts, they develop appropriate androgyny behaviors and organize various activities to realize androgyny education.

The region studied in this paper is the Yangtze River Delta, one of China's very well-developed economic regions. However, there are still inequalities in the distribution of educational resources between rural and urban areas. This can lead to differences in educational philosophies and the strength of teachers in different kindergartens in rural and urban areas, which can also impact the study of gender stereotypes and androgyny education.

5. Limitation

This paper was conducted through the distribution of questionnaires and received a high return rate of data, but the sample size was too small, limiting the study results. The limited time available for data collection in this study resulted in a sample size of only 67 questionnaires being collected,

which can have an impact on the results. When doing future research on this subject, the author should set aside as much time as possible to collect enough questionnaire data to make the results more generalizable.

Based on the data collected from the questionnaire, the sample size of male teachers was too small. The inequality in the number of male and female teachers is a common phenomenon in kindergartens, which could also affect the study results. The results of gender stereotypes and the implementation of androgyny education may vary between the different genders of early education teachers. In the future, the relationship between gender stereotypes and androgyny education can be further studied from the perspective of different genders.

Questionnaires and scales relating to gender stereotypes were relatively well-established. However, as androgyny education is a cutting-edge area of research within education, there are not many relevant scales or questionnaires that would affect the extent to which androgyny education can be measured. It is hoped that future research by scholars on androgyny will enrich the scales for measuring androgyny education with better reliability and validity.

This study was based on the Yangtze River Delta region of China. The results may be geographical and may not necessarily apply to people from other regions and cultures. It is hoped that future scholars will study people from different cultural and ethnic backgrounds to enrich the research on gender stereotypes and androgyny education.

In collecting the data for the questionnaire, the authors used the early childhood teachers themselves to complete it. The results can be subjective and conceal the possibility of the truth. Therefore, in future studies, a variety of methods could be used to collect data, such as distributing questionnaires to parents and students who know early childhood teachers, which could reduce the subjectivity of the results to a certain extent and make the results more scientific.

6. Conclusion

This study examined the relationship between gender stereotypes and androgyny education among early childhood teachers in China's Yangtze River Delta region. The findings showed a negative relationship between teachers' gender stereotypes and androgyny education, indicating that when teachers had a higher level of gender stereotypes, teachers were less likely to implement androgyny education. Conversely, when teachers had a lower level of gender stereotypes, they were more likely to implement androgyny education. The study also found a moderate correlation between teachers' gender stereotypes and perceptions of androgyny education, a weak correlation with androgyny education behaviors, and a weak correlation with how androgyny education activities were organized. Also, early childhood teachers' school location can impact their gender stereotypes.

This study also provided educators with a new way of thinking. In the future, the early childhood education community can pay more attention to gender stereotypes of early childhood teachers from different regions, ages, and genders. It can regularly train and educate teachers to help them think critically about the positive and negative aspects of gender stereotypes. This study highlights the importance of androgyny education and provides future scholars with theoretical and practical meaning.

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