An Analysis of the Current Situation and Influencing Factors of Ageism of Middle School Students

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Abstract. To investigate the current situation and influencing factors of ageism among 207 middle school students mainly in Beijing, an online questionnaire survey was conducted, and the geriatric discrimination scale formulated by Fraboni was used to investigate the current situation and influencing factors of geriatric discrimination among middle school students from five dimensions of cognition, social environment, social participation, emotion and behavior, and life status. It was found that middle school students scored 3-4 points on geriatric discrimination, which is the moderately biased consent range. Cognitive factors score 3.984, emotional and behavioral factors 3.566, life state evaluation 4.043, social participation 3.737, social environment 3.857. Overall, the level of discrimination is low. However, the level of discrimination in the dimensions of emotion and behavior, and social participation is significantly higher than in other dimensions. Based on OLS least squares regression, the degree of discrimination was related to age, gender, family structure, intergenerational communication, and life education level. The significance level of the association degree was below 0.05 or 0.01. In conclusion, we strongly recommend parents pay more attention to intergenerational communication during adolescent growth. Meanwhile, we should popularize life education in middle school classrooms, and build a social environment that respects and loves the elderly.

Keywords: active aging, geriatric discrimination, middle school students, life education, intergenerational relations

1   Introduction

According to the data from China's seventh national census, the population aged 65 and above accounts for 13.5%. According to the United Nations population standards, China has entered a mildly aging society and is approaching a moderately aging society[1]. Moreover, the 1.4 billion population base makes China have an elderly population of about 200 million. This is also the highest number of elderly people in the world[2].

Encountering the national conditions of population aging, the Fifth Plenary Session of the 19th Central Committee of the Communist Party of China made actively responding to population aging a national strategy[3], and the concept of active aging was born. Different from the traditional concept that aging is an inevitable decline process of human physiology and psychology, active aging replaces the essential aging process and establishes a positive age view, which is conducive to promoting the transformation of the perspective of geriatric research. Ageism, that is, negative or positive stereotypes, prejudices, and discrimination against the elderly, is an urgent problem in the process of achieving active aging.

Some studies chose to use the geriatric discrimination scale with high reliability and validity to analyze the severity of geriatric discrimination in the target group and found that most groups had significant age discrimination, which was inseparable from gender, family, and education. One example is the study on the level and influencing factors of geriatric discrimination among nursing home nurses[4]. However, there are relatively few studies on the current situation of geriatric discrimination in younger age groups in China, so this study can further expand the age range of geriatric discrimination research subjects. Based on the statistical analysis of 207 valid samples, the author found that middle school students had mild geriatric discrimination, and analyzed the influence on the degree of geriatric discrimination of age, gender, parent's education level, monthly household income, family structure, school life education, and other influencing factors. On one hand, the conclusion realized the quantification of the degree of geriatric discrimination among middle school students in five dimensions and provided the range of influencing factors for the research of geriatric discrimination of students in the future. On the other hand, it can also promote schools to carry out age-related educational content, such as promoting life education courses and cultivating students' ability to care for and understand the elderly. In this way, we can promote the harmony of intergenerational family relations and the correct social values of respecting and loving the elderly.

2   Literature review

2.1   Preface

In the context of active aging, age-related discrimination caused by the restraint of traditional concepts is a new direction of research in recent years. Discrimination is detrimental to the physical and mental health development of the elderly. The attitude of middle school students as potential family pillars for the next generation is worth exploring by scholars. Without improvement, older people's relationships with adolescents or adults are at risk of deterioration. In addition to family relations, ageist attitudes in society can lead to antagonism between people of different ages. Therefore, we should carefully analyze the current situation of geriatric discrimination among middle school students, as well as the external conditions and root causes of geriatric discrimination, to improve the concept of adolescents towards the elderly and achieve the goal of promoting harmony of intergenerational family relations, and then promote the construction of an active aging society.

2.2   Concept and development

Tuckman and others pointed out that there are unreasonable misconceptions about older people. Butler[5] formally proposed the concept of ageism, focusing on prejudice against the elderly[6]. He divided ageism into the third broad category of discrimination in addition to sex and racial discrimination. This has greatly improved the attention of scholars to geriatric discrimination and has a positive role in promoting subsequent research. Iversen et al. defined ageism by defining negative or positive stereotypes, prejudices, and discrimination against older people due to their age or perception of old age[7]. In conclusion, the definition of old-age discrimination has been continuously improved and developed from rough to precise, from partial to complete. In general, the definition of aging discrimination in the academic community mainly focuses on three dimensions: behavior, psychology, and emotion.

2.3   Status of foreign research

Because the concept of ageism was first proposed by Western scholars, in-depth research was abundant. Most scholars integrated ageism and population aging and divided ageism into positive geriatric discrimination and negative geriatric discrimination. Western scholars have systematically developed the geriatric discrimination scale for college students. And obtained results in actual research showed that the scale is an effective and reliable tool for determining the ideal level of college students' attitudes toward ageism[8]. It has been proven that nursing students have far less knowledge about caring for the elderly and show obvious negative attitudes, so it is recommended that training and counseling programs related to older persons and age discrimination be developed from the beginning of nursing education[9-10]. Foreign scholars also further explored the causes and influencing factors of geriatric discrimination among nursing home students, including aging anxiety, contact frequency, preference for elderly care, age, and contact quality[11]. Some scholars have also raised the importance of intergenerational communication and suggested that culture, age, and gender play an important role in young people's decision to reach out to older people[12]. Although the results of different studies vary, in general, foreign research on discrimination in old age is extremely rich and supported by a large number of statistical data.

2.4   Status of domestic research

At present, domestic research on geriatric discrimination has a large gap compared with foreign research. The depth and breadth of research are lacking, which is a field that needs to be explored. A considerable number of studies have explored the interaction between geriatric discrimination and the mental health of the elderly, which concluded that the loneliness of the elderly in the community is mainly due to the gradual loss of workability, high economic pressure, and self-discrimination[13]. Meanwhile, studies on similar topics found that improving the subjective well-being of the elderly can promote positive aging. Most of the remaining empirical studies focused on the current situation of geriatric discrimination among college students. Some studies have found

that college students have a general tendency to discriminate against the elderly[14]. Further influencing factors are closely related to the degree of geriatric discrimination, including whether there is close contact with the elderly, how to get along with the elderly, whether they like to care for the elderly, and whether they are willing to engage in geriatric care work.[15]

2.5   Review

Previous research on geriatric discrimination covered the current situation of geriatric discrimination among caregivers and college students and their subjective cognition of the elderly. At present, there are rarely papers on the current situation of geriatric discrimination of middle school students, indicating that scholars have not paid enough attention to the current situation of geriatric discrimination of middle school students. So it is necessary and meaningful to research geriatric discrimination among middle school students. It is believed that the scope of research will be extended to middle school students and even primary school students in the future, and the research scope of geriatric discrimination research will be further improved.

By 2050, today's middle school students will become adults, playing the role of "connecting the top and the bottom" in the family. Therefore, it is indispensable to analyze the current situation and influencing factors of geriatric discrimination among middle school students. This study scored five dimensions of geriatric discrimination for high school students in grades 7-12 and obtained the corresponding influencing factors through the method of least squares regression.

3   Research design

3.1   Research tools

3.1.1 General Information Questionnaire

Part of the self-designed questionnaire includes age, gender, parent's education level, and monthly family income as independent variables. The remaining independent variables include whether they are only children, raised by the elderly, living with the elderly, helping to care for the elderly, whether there are disabled or semi-disabled elderly people in the same household, whether the school conducts geriatric education, and whether students are interested in the content of geriatric education.

3.1.2 Age-related discrimination scale developed by Fraboni

The subsequent questionnaire involves the Geriatric Discrimination Scale developed by Fraboni[16], which is mainly used to assess the cognitive status of the sample for older adults. The scale was then sinicized by Wu Fan[17], including five dimensions of social environment, cognition, social participation, emotion and behavior, and life state evaluation. Composed of 22 items, the measurement options all adopted Likert's five-point scale method. The class reliability of the five subscales was greater than 0.6, and

the half-confidence value of the total chat table was 0.84, indicating that the reliability of the scale was good.

To ensure the accuracy of the results, the reliability and validity of the questionnaire scale were analyzed using Cronbach's α and KMO values. As shown in Table 1, the Cronbach's α of all variables is greater than 0.7, the KMO value is greater than 0.6, and the factor load value of each question item is greater than 0.80, which proved that the questionnaire has good reliability and validity, and further regression analysis can be performed.

Table 1. Questionnaire of reliability and validity analysis

Variable	Mean	SD	Factor Loading	Cronbach'α	KMO
Social Environment				0.869	0.780
Older persons have respectful access to social services in public spaces.	3.976	0.85	0.878		
The society provides facilities and activity venues suitable for sports and leisure and recreation for the elderly.	4.01	0.965	0.822		
Older people with different health, family and economic conditions can find suitable and safe housing.	3.618	1.184	0.866		
Older persons can walk safely, conveniently, and respectfully or use a variety of means of transport.	3.826	1.088	0.846		
Cognition				0.847	0.783
Aging people are still creative.	3.807	0.976	0.834		
Older adults can still reach their potential if they want to.	4.092	0.851	0.846		
The experience and knowledge of older persons remain valuable to society.	4.184	0.779	0.800		
Seniors are willing to make new friends.	3.855	0.907	0.724		
Older people are still interested in new things	3.715	0.981	0.747		

and are willing to constantly learn new things.					
Social Participation				0.806	0.747
After retirement, older persons will be able to find gainful employment if they wish.	3.502	1.114	0.801		
Elderly still under employment have access to training and promotion opportunities.	3.464	1.122	0.840		
Seniors can participate in social services, social activities, or volunteering.	4	0.836	0.765		
Older persons can publicly express their views and suggestions on relevant policies.	3.981	0.929	0.783		
Emotion and Behavior				0.876	0.829
Young people are willing to work with older people.	3.401	1.004	0.854		
Children are willing to live and cohabitate with the elderly	3.643	1.009	0.834		
Young people are willing to participate in activities organized by the elderly and have fun together.	3.507	1.047	0.886		
Young people are willing to talk to older people and discuss life or social issues together.	3.715	0.976	0.839		
State of Life				0.891	0.742
Older people are well cared for by family members or others when they need it.	4.155	0.804	0.876		
Older people have the right to determine important matters on their own.	4.077	0.838	0.841		

Older persons are treated fairly without discrimination based on age, gender, or disability.	3.947	1.053	0.902
Older people are accepted by the general population of the society, without isolation or exclusion.	3.995	0. 963	0.867

Note: The cumulative contribution rate of factor variance is above 70%.

3.2   Research object

In this paper, middle school students in grades 7-12, mainly in Beijing, were selected as research subjects. A total of 216 questionnaires were distributed through WeChat chat group sending and forwarding, and 207 valid questionnaires were screened according to the answers with the consent of guardians and whether the questionnaire data was filled in, with a recovery rate of 95.83%.

3.3   Statistical methods

After obtaining the questionnaire data, this study calculated the average score representing the five dimensions of geriatric discrimination and divided it into subjective and objective dimensions to reflect the overall level of ageism among middle school students. To further study the influencing factors affecting the discrimination of middle school students in old age, this study used the statistical method of OLS least squares regression. The core idea of this method is to minimize the sum of squares of the difference between the actual value and the predicted value of the model to achieve the goal of optimal fit.

4   Results

4.1   General information on the research subject

As shown in Table 2, the study selects age, sex, parental education, and family weekly income as the control variable, and the rest as the independent variable.

Table 2. General Information Statistical Tabl

Variable	Options	Frequency	Percentage (%)
Age	[12,15]	50	24.15%
	[15,18]	157	75.85%
Sex	Female	106	51.208
	Male	101	48.792

Father's Education	College and below	80	38.647
	Undergraduate	66	31.884
	Master	42	20.29
	Doctor	19	9.179
Mother's Education	College and below	86	41.546
	Undergraduate	73	35.266
	Master	34	16.425
	Doctor	14	6.763
Family Weekly Income	More than 50000	56	27.053
	30000-50000	54	26.087
	10000-300000	46	22.222
	5000-100000	27	13.043
	Less than 5000	24	11.594
Whether or not a single child	No	111	53.623
	Yes	96	46.377
Whether or not being raised by an older person	No	169	81.643
	Yes	38	18.357
Whether or not live with the elderly	No	144	69.565
	Yes	63	30.435
Whether or not take care of the elderly	No	126	60.87
	Yes	81	39.13
Whether there are disabled or semi-disabled elderly people living in the same household	No	188	90.821
	Yes	19	9.179
Whether the schools conduct educational content related to the elderly	No	130	62.802
	Yes	77	37.198
Whether or not interested in educational content	No	113	54.589
	Yes	94	45.411
Sum		207	100.000

4.2 Current situation of discrimination against middle school students in the elderly

Based on the scores of each sample of geriatric discrimination level, the average of all questions was calculated, descriptive statistical analysis was carried out according to the dimension, and the overall level of geriatric discrimination in the middle school student group was obtained.

Table 3. The five factors of the Ageism Scale and their average scores

Level	Factor	Average Value
Subjective Level	Cognitive Factor	3.984

		Emotion and Behav-ior Factor	3.566
Ageism	Objective Level	Life Status Evalua-tion Factor	4.043
		Social Participation Factor	3.737
		Social Environment Factor	3.857

In Table 3, except for the life state evaluation factor, the average score of other factors was between 3-4 points, between average and agreed. The overall level of geriatric discrimination among secondary school students is not high, but it is not positive. According to the rules of the Likert scale, the lower the overall average score, the higher the level of discrimination in old age. Among them, 3.566 of the subjective emotional and behavioral factors scored the lowest score, which was lower than the cognitive factor of 3.984, indicating that middle school students had a relatively negative attitude towards the elderly in terms of emotions and behavior, while the objective social participation factor of 3.737 scored the lowest score, which was lower than the 4.043 and 3.857 of the living state and social environment factors.

4.3   OLS regression analysis

We performed least squares (OLS) regression analysis on dependent and explanatory variables, and the results were as follows:

Table 4. Regression results of five factors of geriatric discrimination OLS

Variables	Social Environment	Cognition	Social Participation	Emotion and Behavior	Life Status
Age	-0.018***	-0.037*	-0.042*	-0.043	-0.073***
Sex	0.336***	0.346***	0.300***	0.252**	0.211*
Father's Education	-0.046	-0.055	-0.054	0.075	0.070
Mother's Education	0.046	0.153**	0.056	0.058	0.149*
Family Weekly Income	-0.161**	0.003	-0.104**	-0.057	0.040
Whether or not a single child	-0.150	-0.173	-0.313**	-0.169	-0.195
Whether or not being raised by an older person	0.121	0.323**	0.185	0.031	-0.010
Whether or not live with the elderly	-0.109	-0.085	-0.024	-0.176	-0.080

Whether or not take care of the elderly	-0.089	-0.081	-0.204	-0.129	-0.196
Whether there are disabled or semi-disabled elderly people living in the same house-hold	0.279	0.455***	0.312	0.262	0.348*
Whether the schools con-duct educa-tional content related to the elderly	-0.038	-0.036	-0.036*	0.019	0.054
Whether or not interested in educational content	-0.193	-0.330**	-0.243	-0.483***	-0.326**

* indicates statistics are significant at the level of 0.1, **indicates significant at the level of 0.05, *** indicates significant at the level of 0.01.

The age group differences were significant, and the two dimensions of social environment and living status were significantly at the level of 0.01 (see Table 4). Age was negatively correlated with all five dimensions, that is, the older the age, the lower the score and the higher the degree of ageism, so the degree of age-related discrimination tends to deepen in the transition from junior high school students to high school students. The guidance of teachers in the process of students' growth is thus essential.

Group differences by gender were the most significant, with cognitive and social participation at 0.01, while social environment, emotions, and behavior were significant at 0.05. Gender is positively correlated with the dependent variable, so it can be concluded that male middle school students have significantly higher levels of egotism than female high school students. In addition, the mother's education level has a greater impact on the student than the father's education level, indicating that in most families, the mother has more influence on the child's values.

Family status and structure are also significantly related to the dependent variable. The degree of old-age discrimination of only children is higher than that of non-only children, which shows that the tilt of family resources is easy to negatively affect the attitude of middle school students toward the elderly. The degree of discrimination among middle school students raised by the elderly is even lower, indicating that promoting intergenerational communication and intergenerational harmony is one of the effective ways to weaken the degree of discrimination in old age. Middle school students who lived with disabled and semi-disabled elderly people were also cognitively

positive. In the process of caring for the elderly, middle school students will be able to learn to respect the elderly and to communicate with them on an equal footing. Frequently organizing relevant student public welfare activities will effectively alleviate the degree of discrimination against the elderly.

Whether students are interested in age-related educational content is also significantly negatively correlated with the five dimensions. The task of increasing students' interest in geriatric education or life education is easily overlooked. In addition to the education of the elderly, it is also necessary to ensure that students' interests can have a positive impact.

5   Conclusions and Recommendations

5.1   Conclusion

In recent years, the concept of active population aging has been continuously emphasized, and how to solve the problem of aging discrimination has become the focus of attention[18]. Based on Wu Fan's Sinicized Fraboni Geriatric Discrimination Scale, this paper conducted a descriptive statistical analysis of the geriatric discrimination level of middle school students from five dimensions: cognition, emotion and behavior, life state evaluation, social participation, and social environment. At the same time, the least squares (OLS) regression was used to identify the influencing factors of geriatric discrimination among Chinese students.

This study found that the degree of discrimination among middle school students in Beijing is generally moderate. The study found that the overall geriatric discrimination score of middle school students was between 3-4 points, which corresponds to the general to agreed range of the Likert score. Middle school students scored the lowest in the dimensions of emotion and behavior, with the heaviest degree of discrimination, and the highest scores in the dimension of life status evaluation, with the lowest degree of discrimination. The overall level of geriatric discrimination among secondary school students is moderately positive, but it is not completely positive, so it needs to be improved.

It was also found that the relevant factors of discrimination against middle school students in the elderly mainly include age, gender, whether they are only children, whether they are raised with the elderly, whether they live with the disabled and semi-disabled elderly, and the development of school life education and interest cultivation. Through OLS regression, the study found that age was negatively correlated with the degree of geriatric discrimination in all five dimensions. In the process of increasing the age of middle school students, with the development of the Internet, the amount of surrounding information will increase day by day, and some negative information will unconsciously deepen their degree of geriatric discrimination. The group differences in gender were most significant among all the independent variables, with cognitive and social participation at the level of 0.01, while social environment and emotion and behavior were significant at the level of 0.05. This may be related to the inherent mindset of men as a relatively dominant group, so age and gender discrimination are closely linked, rather than independent research questions. Of all external conditions, family

outcomes have the greatest impact on the degree of discrimination in old age among secondary school students. Breaking down the family structure further, the author found that the degree of geriatric discrimination in only children tends to be higher, which may be caused by parents tilting family resources too much towards the only child, causing them to ignore the situation and feelings of other individuals. Not only that, whether middle school students in the family are raised by the elderly, and whether they live with disabled or semi-disabled elderly people will affect the cognitive level of the elderly. Therefore, active communication with older people in daily life has a significant effect on reducing geriatric discrimination among secondary school students.

5.2   Recommendations

First, popularize life education in secondary school classrooms and increase secondary school students' interest in life education-related content. According to the results of this paper, whether schools carry out life education is significantly correlated with the degree of discrimination in old age, and whether students are interested in life education is most closely related to cognitive, emotional, and behavioral dimensions. Therefore, the government should guide schools to carry out in-depth life education from the perspective of policy guidelines. This is not only a practical need to solve the outstanding problems faced by adolescents' growth and development, but also a fundamental way to implement respect and love for the elderly and promote positive values.

Second, strengthen the focus on intergenerational communication with older adults during adolescent growth. Studies have found that sharing facts about older people helps eliminate listeners' prejudices against older adults16. The OLS regression results in this paper also prove this. Middle school students raised by the elderly have fewer stereotypes of their elders than their peers, and middle school students who get along with disabled or semi-disabled elderly people also have more respect for the elderly. Therefore, we should strengthen intergenerational communication between children and the elderly from a young age, help them face age changes, establish correct age management, and build harmonious intergenerational relationships in communication and interaction.

Third, break down family barriers and carry out activities in the community with the participation of the elderly and students. In the emotional and behavioral dimensions, the score of middle school students on whether they are willing to participate in recreational activities organized by the elderly is only 3.507, which indicates that most middle school students still have a hidden rejection of the elderly. Therefore, communities should increase the frequency of mental or physical activities, such as chess tournaments, to show the healthy physical and mental state of the elderly. Exchanges between the elderly and middle school students in the community can build a social environment of benign intergenerational interaction based on intergenerational harmony in the family.

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