

# The Impact of Inter-ethnic Friendship on the Social Capital of Chinese Adolescents

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**Abstract.** Inter-ethnic friendship plays a crucial role in inter-ethnic contact and serves as a significant aspect of informal interaction diversity within the realm of educational ethnic diversity. Utilizing the theoretical framework of social capital, the Poisson fixed-effect model has confirmed the beneficial impact of inter-ethnic friendships on individuals' social capital. The research revealed a significant disparity in social capital stock between students who cultivate inter-ethnic friendships and those who maintain friendships within their own ethnic group, with the former group exhibiting a 30.5% higher level of social capital. Additionally, the study identified ethnic variations in the social capital returns of inter-ethnic friendships, with minority students experiencing notably higher returns compared to Han students.

**Keywords:** social capital theory; inter-ethnic friendship; the stock of social capital.

## 1. Introduction

Inter-ethnic friendship serves as a crucial component of inter-ethnic engagement and represents a significant facet of informal interaction diversity within the realm of educational ethnic diversity research. Mere coexistence of students from diverse backgrounds in shared spaces is insufficient; rather, fostering direct interactions among students of varying ethnicities is essential for cultivating positive outcomes within the educational environment. Prior research has established that structural diversity alone is insufficient to facilitate direct contact and interaction among ethnic groups. During adolescence, the peer group plays a crucial role in socialization, with its influence on individuals becoming increasingly prominent at this developmental stage. Research has indicated that inter-ethnic friendships, as a type of inter-ethnic interaction, are effective in mitigating bias, as evidenced by experimental studies [1,2,3]. Theoretical frameworks suggest that the strength of friendships lies in the formation of emotional connections across different groups, leading to a shift in individuals' perceptions of intergroup dynamics and fostering a sense of belonging akin to their own group [4,5].

## 2. Research framework

While there is limited existing research connecting inter-ethnic friendships to students' social capital status, the social network and social capital perspective employed in this study is expected to enhance the social capital accumulation of adolescents.

Research has demonstrated that individuals in various settings, including urban and rural areas and different occupations, possess a comparative advantage in social capital. Bian Yanjie et al investigated the beneficial impact of China's distinct cross-institutional network on individual social capital, affirming that social networks spanning state-owned and non-state-owned sectors can foster cross-institutional social capital [6]. In recent years, scholars in the domestic academic community have increasingly focused on the influence of inter-ethnic social networks on social capital. Research on inter-ethnic interactions in China has revealed that such exchanges can enhance individual social capital. Notably, ethnic migrants exhibit significantly higher levels of social capital compared to non-ethnic migrants [7].

Bian Yanjie et al. identified three theoretical explanations for the production mechanism of cross-system social capital: status and utility theory, network effect theory, and operation effect theory. The "status and utility theory" highlights the significance of social status in resource acquisition. This theory posits that individuals with higher social status possess greater resources and are better

equipped to establish and sustain social networks across systems, thereby gaining a competitive edge in social capital. The theory of network effects highlights the significance of the scope of an individual's social relationship network. As the social scope of individual communication expands, the heterogeneity between individual relations strengthens, leading to a broader coverage of resources within the communication circle, ultimately resulting in the formation of effective social capital. Conversely, the operational utility theory posits that personal social networks are dynamic and underscores the crucial role of human agency in accessing embedded resources. This perspective underscores the importance of effectively mobilizing resources. According to Bian Yanjie, the generation of social capital is hindered in the absence of social capital [8]. The "status utility theory" posits that "social status is equivalent to social capital", a perspective that appears to diverge from the traditional framework for analyzing social relations in the study of social capital. This theory also overlooks the significance of social networks in the development of social capital, a critique highlighted by Fischer [9]. The "network effect theory," drawing from the experiences of Western societies, asserts the significance of social networks, underscores the importance of network structure characteristics, and posits that the formation of social capital is an inherent process [10]. In contrast, the "operation effect theory," rooted in the Chinese social context, has garnered recognition among domestic scholars and has been substantiated through empirical investigations of the "New Year network," "catering network," and "job network."

The act of crossing between urban and rural areas, between different social systems, and between various ethnic groups represents a significant advancement in expanding the boundaries of original social networks. Inter-ethnic contact, as a form of boundary breakthrough, has the potential to provide social capital to individuals seeking to navigate across ethnic groups. When individuals from different ethnic backgrounds establish connections and create an inter-ethnic social network, it can lead to enhanced resource availability, increased heterogeneity of social capital, and ultimately, a greater accumulation of social capital. As a result, we propose the concept of the "relative advantage of social capital," suggesting that individuals who cultivate friendships across ethnic lines possess a higher level of social capital.

### **3. Research methods**

#### **3.1 Sample selection.**

The data utilized in this study were obtained from the 2019 Hulunbuir Basic Education Survey with the objective of examining the state of basic education in ethnic areas and delving into the trends and attributes of educational achievement within ethnic minority regions.

#### **3.2 Measures.**

The primary independent variable under investigation in this study is inter-ethnic friendship, operationalized as a dummy variable. The dependent variable remains consistent with the previous section, focusing on students' social capital stock, specifically the quantity of close friends self-reported by the students.

#### **3.3 Statistical analysis.**

Given that the dependent variable, "social capital stock," is a discrete counting variable and taking into account the cluster sampling characteristics of the sample, the initial analysis employs a Poisson fixed effect model to examine the impact of inter-ethnic friendships on students' social capital stock. Subsequently, robustness tests are conducted based on the sample characteristics. The subsequent analysis aims to investigate potential ethnic variations in the social capital effects of inter-ethnic friendships. Initially, we will incorporate interaction terms into the Poisson fixed effect model, followed by conducting a robustness test using the Poisson fixed effect model with class samples.

## 4. Results

### 4.1 The impact of inter-ethnic friendship on the social capital stock of teenagers.

Following the prescribed analytical procedures, a Poisson fixed-effects model was initially employed to investigate the impact of inter-ethnic friendships among adolescents on their accumulation of social capital. The specific findings are presented in Table 1. In Model 1, solely control variables were incorporated, while Model 2 introduced the primary independent variable of interest, inter-ethnic friendship (a dummy variable), building upon the foundation of Model 1. Finally, Model 3 conducted a robustness assessment through the utilization of a school Poisson fixed effect model.

Table 1. Impact of inter-ethnic friendship on social capital stock

variable	model 1	model 2	model 3
Interethnic friendship		0.266***	0.257***
(Inter-ethnic group =1)		(14.81)	(14.53)
family SES	0.000	0.000	-0.000
	(0.16)	(0.76)	(-0.25)
Household registration	0.065***	0.068***	0.072***
(rural area =1)	(3.69)	(3.86)	(4.16)
Gender (male =1)	0.056***	0.111***	0.114***
	(3.97)	(7.59)	(7.83)
age	0.728***	0.762***	0.720***
	(3.92)	(4.06)	(4.25)
The square of age	-0.025***	-0.026***	-0.025***
	(-3.85)	(-3.98)	(-4.18)
Ethnic group	0.027	0.122***	0.119***
(Han =1)	(1.06)	(1.25)	(2.81)
physical condition	-0.032*	-0.034*	-0.042**
	(-2.07)	(-2.17)	(-2.74)
Mental health status	0.003***	0.004***	0.003***
	(3.73)	(3.81)	(3.66)
family structure	0.004	-0.001	0.006
(Living with parents =1)	(0.22)	(-0.05)	(0.35)
sample capacity	1647	1647	1647
Log-likelihood	-7791.683	-7679.406	-7923.619

Note: (1) the numbers in parentheses are standard errors; (2) the significance level: \*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

Model 1 serves as the reference model, mirroring the model discussed in the preceding section, and indicates that household registration, gender, age, physical and mental health are significant determinants of adolescents' social capital stock when adjusting for additional variables. The findings of Model 2 demonstrate that inter-ethnic friendships have a notable positive impact on teenagers' social capital stock while considering other factors. The findings indicate that students who have inter-ethnic friendships possess a social capital stock that is 30.5% higher than students who only have friendships within their own ethnic group (exp (0.266) -10.305, P <0.001). This suggests that inter-ethnic friendships significantly contribute to the enhancement of youth social capital.

Simultaneously, our research revealed that the inclusion of the key independent variable of inter-ethnic friendship resulted in an increase in the levels of household registration, gender, and ethnic disparities in social capital stock. Model 3 presents the findings of estimating the influence of interethnic friendship on adolescent social capital stock through the utilization of school fixed-effect models. The utilization of the school fixed-effects model aimed to control for potential confounding variables at the school level, such as size and location, that may influence student social capital. The findings from Model 3 reaffirm the conclusion drawn in Model 2 regarding the significant influence of inter-ethnic friendships on adolescent social capital. Based on the findings of the school fixed-effects model, students who have inter-ethnic friendships exhibit a social capital stock approximately 29.3% higher than their peers who only have friends within their own ethnic group ( $\exp(0.257) - 10.293$ ,  $P < 0.001$ ). These results suggest that inter-ethnic friendships significantly enhance students' social capital stock, with a promotion effect of approximately 30%. Both the class Poisson fixed effect model and the school Poisson fixed effect model are cross-validated for their significance and magnitude of impact.

## 4.2 Ethnic differences.

This section will analyze the influence of inter-ethnic friendships on the social capital of adolescents, exploring potential variations in this impact based on ethnicity and the nature of these differences. The analysis procedure involved initially incorporating the interaction term of inter-ethnic friendship and ethnic group in the upper portion of model 2 to examine potential variations in the impact of inter-ethnic friendship on social capital across different ethnic groups. Subsequently, a robustness test was conducted utilizing regression analysis on the ethnic samples in the second step.

Table 2. Ethnic differences in the impact of inter-ethnic friendship on social capital

	model 1a	model 1b	model 2a	model 2b
Interethnic friendship	0.266***	1.015***	0.252***	0.947***
(Inter-ethnic friendship =1)	(14.81)	(9.66)	(13.31)	(8.84)
The Han Nationality	0.122***	0.874***		
(Han =1)	(6.95)	(8.30)		
Inter-ethnic friendship and nation		-0.783***		
family SES	0.000	0.000	-0.000	0.002+
	(0.76)	(0.89)	(-0.30)	(1.83)
Household registration	0.068***	0.069***	0.103***	-0.045
(rural area =1)	(3.86)	(3.90)	(5.04)	(-1.23)
Gender (male =1)	0.111***	0.106***	0.180***	-0.042
	(7.59)	(7.21)	(10.10)	(-1.56)
age	0.762***	0.808***	0.888***	1.232***
	(4.06)	(4.29)	(3.87)	(3.85)
The square of age	-0.026***	-0.028***	-0.031***	-0.043***
	(-3.98)	(-4.20)	(-3.81)	(-3.86)
physical condition	-0.034*	-0.030+	-0.0137	-0.048
	(-2.17)	(-1.93)	(-0.72)	(-1.63)
Mental health score	0.004***	0.003***	0.004**	0.002
	(3.81)	(3.69)	(3.24)	(1.16)
family structure	-0.000	-0.007	0.025	-0.074*
(Living with parents =1)	(-0.05)	(-0.36)	(1.03)	(-2.32)
sample capacity	1647	1647	1142	504
Log likelihood	-7679.406	-7645.194	-5219.747	-2086.622

Note: (1) the numbers in parentheses are standard errors; (2) the significance level: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$

Model 1 examines the impact of inter-ethnic friendships on the accumulation of social capital, as outlined in Table 2. Model 2 introduces the interaction between inter-ethnic friendships and ethnicity to the initial model for estimation purposes. The interaction term of inter-ethnic friendships in Model

2 yielded statistical significance ( $P < 0.001$ ), suggesting notable ethnic disparities in the effects of inter-ethnic friendships on the social capital reserves of adolescent individuals. Based on the findings from model 2, the impact of inter-ethnic friendships on the return of social capital is contingent upon the ethnic group of the student. Furthermore, the disparity in social capital between Han nationality and minority students is influenced by the presence of inter-ethnic friendships.

In a controlled setting, the presence of inter-ethnic friendships has been shown to significantly enhance social capital+ accumulation for both non-Han and Han students, with respective increases of approximately 1.76 times and 2.02 times. In alternative circumstances, the social capital accumulation of Han students who have friendships with individuals of different ethnicities is approximately 1.4 times greater than that of minority students with similar friendships (exp (0.874) - 11.40). Inter-ethnic friendships have the potential to significantly diminish disparities in social capital accumulation based on ethnicity, with Han students exhibiting a social capital accumulation approximately 9.5% higher than that of ethnic minority students (exp (0.091) - 10.095). Inter-ethnic friendships exhibit varying levels of social capital returns among different ethnic groups, with Han minority students experiencing lower returns compared to other ethnic groups. Additionally, inter-ethnic friendships have been shown to mitigate the social capital disadvantages faced by minority students.

In order to assess the resilience of ethnic disparities in the impact of transethnic friendships on social capital, we conducted sub-ethnic analyses. The findings from Model 2a and 2b in Table 2 present the results of the analysis for Han and minority student samples, respectively. The findings of the model indicate that both Han and minority students have the potential to acquire social capital advantages through inter-ethnic friendships. Nevertheless, the magnitude of the social capital impact of inter-ethnic friendships varies between Han Chinese students and ethnic minority students. In contrasting circumstances, Han students who maintain friendships with individuals from various ethnic backgrounds exhibit a social capital stock that is approximately 28.7% greater than that of Han students who exclusively associate with peers from their own ethnic group (exp (0.252) - 10.287,  $P < 0.001$ ). Inter-ethnic friendships have been found to significantly enhance the social capital stock of ethnic minority students by 158% (exp (0.947) - 11.58,  $P < 0.001$ ). The robustness test further supports the notion that there exist ethnic disparities in the social capital impact of inter-ethnic friendships, with ethnic minority students demonstrating a greater capacity to accrue social capital advantages from such relationships.

## 5. Conclusion

The study confirmed the hypothesis that inter-ethnic friendships contribute to the enhancement of students' social capital. The presence of inter-ethnic friendships influences students' acquisition of social capital, providing them with a distinct advantage. The social capital benefits derived from inter-ethnic friendships underscore the significant role of peer groups in shaping individuals' social networks and capital.

The peer group plays a crucial role in the socialization of individuals, especially among junior high school students. Inter-ethnic friendships facilitate mutual understanding and knowledge exchange among students from diverse ethnic backgrounds, thereby enriching their social networks and potentially contributing to the formation of social capital, as described by Putnam in his concept of the Federation of Overseas Chinese [11]. Inter-ethnic friendships facilitate more direct and meaningful inter-ethnic interactions compared to the composition of community groups discussed in the preceding section. Through engaging with friends from diverse ethnic backgrounds, individuals develop extensive reciprocal norms, as described by Putnam, which stem from bridge social capital [11]. Simultaneously, the rise of diversity among ethnic groups has heightened adolescents' awareness of various dimensions of group and individual characteristics, fostering understanding and tolerance. This tolerance extends beyond intergroup differences to encompass diverse classes, genders, and age groups, thereby enhancing students' social capital and breadth of perspective.

Furthermore, this section not only validates the social capital impact of inter-ethnic friendships but also uncovers the ethnic diversity within these relationships through interactive analysis. Particularly, ethnic minority students stand to derive heightened social capital advantages from inter-ethnic friendships, thereby bridging the social capital disparity between certain ethnic minority students and those of Han nationality.

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