

Four Portraits of the Differentiation of Z Generation Youth's Views on Marriage and Love— K-means Clustering Analysis Based on Questionnaire

Jingwen Pan, Sha Huang, Xinyi Shen

Zhejiang Normal University, Jinhua 321004, Zhejiang, China

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Abstract: This paper uses the questionnaire survey method to understand the real marriage attitude of Generation Z youth, and uses the questionnaire data to carry out K-Means cluster analysis. It draws the four major ethnic groups and characteristics of the current generation Z youth who are not married, and puts forward feasible suggestions from macro and micro perspectives. It provides a new classification perspective for the study of current marital status in China. In order to promote a better solution to the problem that Chinese youth do not have a strong desire to marry.

Keywords: Generation Z youth; Marriage attitude; Cluster analysis; Marriage intention

Online publication: July 26, 2025

1. Introduction

According to the latest data of the National Bureau of Statistics in 2024^[1], the number of marriage registrations in China has declined for nine consecutive years. From 13.4693 million couples to 6.835 million couples, the number of marriages is small, the age of marriage is late and the quality of marriage is low. As a direct result, the labor supply gap will reach 350 million in the next 30 years, and the population debt cycle will come ahead of schedule.

The problem of non-marriage in China is becoming more and more serious. The current research mainly focuses on three aspects: the first is the analysis of the reasons for non-marriage. E.g. Zhang Shuting et al. (2025) REF^[2] it is pointed out that the common causes of “working time squeeze” and “involution” employment culture lead to the willingness of young people not to marry “; Chang Jinfeng et al. (2024)^[3] found that in addition to personal factors, the formation of young people’s willingness not to marry. Deeply influenced by the cumulative effect of events, stage differences and the marriage around them, the willingness not to marry is fluid rather than fixed. Some scholars pay special attention to women. Chang Ruoxi et al. (2023)^[4] Women’s willingness to “not marry” was significantly higher than that of men. Gender issues emerge in an endless stream in cyberspace, and women’s difficult situation is difficult to be sympathized and relieved. Women are more likely to be “unmarried” for life; Xu Fang et al. (2018)^[5] concluded that The “marriage crisis” faced by women is not only related to factors such as age, personality and lifestyle. It is also closely related to the changes of social culture and the constraints of moral concepts. Thirdly, through the analysis of the characteristics of unmarried groups, it is found that there are differences among unmarried groups. Wang Bingyu et al. (2018)^[6] People believe that social concepts are increasingly open and inclusive, social life is increasingly individualized, gender relations

are increasingly equal and women's economy. The increasing social status and other factors are the economic and social reasons for the formation of the unmarried phenomenon.

Because of the one-child policy, China's Generation Z youth have higher family expectations, better material conditions, and more intense competition for marriage and employment. Intergenerational conflict is also more obvious. In this context, it is necessary to study their attitudes towards marriage and love.

2. Questionnaire survey

In order to get first-hand information about the marriage attitudes of Generation Z youth, the questionnaire referred to the PPS scale, MES/MFS scale, Goodin scale and Triandis scale, and 14 questions were designed. The questionnaire is generally divided into two parts: the basic information of the respondents and the setting of marriage attitude questions.

2.1. Summary of basic information

Table 1. Summary of basic information

Number	Variables	Explain
1	Gender	To explore the impact of gender differences on marriage attitudes.
2	Age	Infer the historical background of the interviewee
3	Education level	Analysis of the impact of academic qualifications on attitudes towards love and marriage
4	The city	Analyze the influence of regional differences on marital attitudes.
5	Monthly income	Assess their financial situation and possible marital stress
6	Current marriage status	Understand the marriage needs and expectations of individuals in different marriage states.
7	Ethnic group identification	Understand the self-group classification of individuals.

2.2. Establishment of Marriage Attitude Index

Marriage attitude We selected economic stress assessment, marriage attitude and anxiety, time poverty and social status, policy perception and marriage preference. To the five dimensions.

Table 2. Questionnaire index building table

Dimension	Indicators	Askaquestion
Economic stress assessment	Impact of housing prices	House/rent expenses have seriously affected my quality of life.
	Impact of childcare costs	The cost of childcare is putting me off marriage.
	A bride price/dowry	The pressure of bride price/dowry is an important obstacle to marriage
	Married income	I am worried that my income after marriage will not be able to meet the family expenses.
Marriage Attitude and Anxiety	Marriage expectations	Marriage doesn't improve my happiness.
	Fear of marriage	I'm afraid of the responsibility in marriage.
	Psychological anxiety	I've been nervous about my marriage for the past two weeks.
Time Poverty and Social Status	Average daily working hours	① <3h
		② 3-5h
		③ 5-8h
		④ 8-10h
		⑤ >10h
	Work and social relationships	Work has cut into my social time.
	Online social networking	Online social networking has replaced real love opportunities.

Table 2 (Continued)

Dimension	Indicators	Ask a question
Policy perception	Policy perception	I have paid attention to the current marriage and childbearing policy.
		I have studied the current marriage and childbearing policy.
	Policy participation	I have discussed the current policy on marriage and childbearing.
		I give advice on the current marriage and childbearing policy.
	Policy implications	The current marriage and childbearing subsidy policy has significantly reduced the cost of childcare for my family.
		The flexible parental leave system has greatly improved my ability to coordinate time between work and childcare.
Love and marriage tendency	Love and marriage will	Do you have the intention to fall in love/get married?

After three months of offline visits, 22987 questionnaires were collected. According to the basic information of the respondents, the gender ratio of the respondents in this survey shows that the gender ratio of the respondents in the survey is comparable. The gender factor has little influence on the attitude to love and marriage. The number of respondents with academic qualifications from junior college and below to doctoral degree is gradually decreasing, which is in line with the current characteristics that the higher the academic qualifications, the fewer the number. Education has little impact on the survey results; the number of young people of all ages ranging from 18 to 30 years old in our survey is uniform. The respondents have a large monthly income distribution span, with a large proportion of people less than 5000 yuan, and most of them are unmarried. The basic situation of the respondents in this survey is in line with the current situation that most of the young people of Generation Z have low wages and are unmarried.

3. K-Means cluster analysis

3.1. Selection of clustering factors

Before the K-means clustering analysis, the clustering variables are selected from the data obtained from the questionnaire survey as the research indicators of the model. According to the previous descriptive statistical analysis and interviews, the following variables are selected to study the marriage willingness of Generation Z youth.

Table 3. Summary table of cluster variables

Variables	Questionnaire items involved
Personal information	1. Your gender
	2. Your age
	3. Your education level
	4. Your monthly income
Characteristics of love and marriage	5. Your current relationship status
	6. Do you want to get married/fall in love?

The types of questions involved in the questionnaire survey often include non-numerical forms such as text options or grade evaluation. However, these raw data cannot be directly used for distance calculation, so the following specific

conversion method is adopted:

- ① Convert the categorical variables into 0/1 digital codes
- ② Standardize the continuous variables to eliminate the dimensional difference.

3.2. Determine the optimal number of clusters

To identify the love and marriage characteristics of young people in Z era through cluster analysis, the first step is to determine the K value of K-means, that is, the best number of clusters. The elbow rule is used to determine the value of K in this paper.

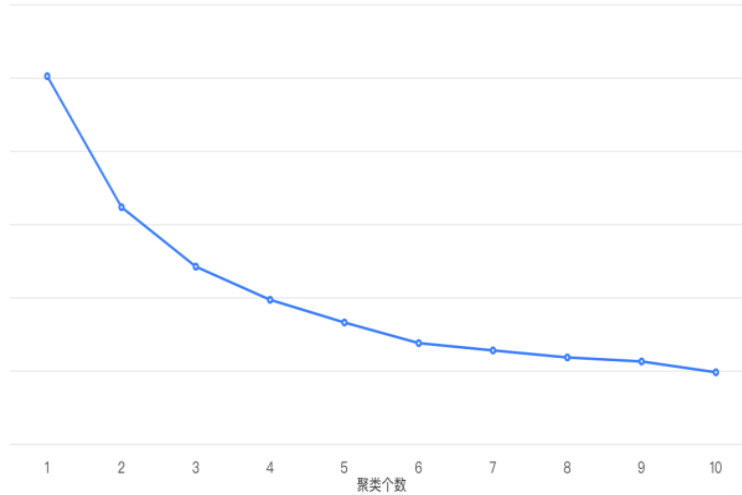


Figure 1. Cluster Elbow Rule Trend Chart

According to the principle of the elbow rule, with the increase of the number of clusters K, the sum of square errors (SSE) shows a trend of first sharp and then slow attenuation. Eventually converge to a stable interval. As shown in Figure, it can be determined that the global turning point corresponding to K = 4 is the optimal number of clusters.

3.3. Clustering result analysis

Table 4. K-means clustering result

Type	“WorriedMarriageClan”	“Fearofmarriageclan”	“LazyMarriageClan”	“Unmarriedpeople”
Gender	High proportion of men	High proportion of women	Men and women are balanced	High proportion of women
Age	27-29 years	21-23 years	24-26 years	27-29 years
Education level	Junior college and below	Undergraduate	Undergraduate	Doctor
Monthly income	RMB 5000-10000	< 5000 yuan	RMB 5000-10000	> 20000 yuan
Current emotional state	In love	In love	Single	Single
Love and marriage attitude	Yes	No	Yes	No

Through K-means cluster analysis, this study identifies four groups with significant differences in marriage attitudes. They are named “Worried Marriage Clan”, “Fear Marriage Clan”, “Lazy Marriage Clan” and “Unmarried Clan”. Each group shows structural differentiation in gender, age, income, educational background and other dimensions. The differences between their marriage concepts and social needs reflect the direction of diversified policy adaptation. By analyzing the relevance between group characteristics and social status quo, it can provide a basis for optimizing public policies and improving the social security system. Help build a more inclusive marriage support ecosystem.

4. Classification of the attitude of the portraits of the four ethnic groups

4.1. “Worried about Marriage”: Compromise between Economic Rationality and Risk Society (38%)

Most of the “marriage worries” are men aged 27-29, with a college education or below, and a monthly income of 5000-10000 yuan. Most of them are in love, but they hold contradictory attitudes towards marriage.

On the economic front, they face many practical problems. According to the census data of the National Bureau of Statistics in 2020, 67% of the unmarried people aged 20-35 have a monthly income lower than the urban average. There was a significant negative correlation between economic pressure and marriage intention ($R = -0.43$), which confirmed the inhibitory effect of economic pressure on marriage decision-making. The China Youth Development Report^[7] and the 2023 Marriage Housing Consumption Survey^[8] by Shell Research Institute also show that 78.3% of young people in first-tier cities believe that “marriage requires house purchase”, and 61% of respondents postpone their marriage plans due to the pressure of house purchase. 61% of the respondents postponed their marriage plans because of the pressure of buying a house. Heavy economic pressure makes them tend to be cautious, wait-and-see, or even retreat in their marriage decision-making. They are anxious about having a stable life. The contradictory mentality of the worried marriage group in the face of marriage is mainly due to the double squeeze of economic pressure and social expectations.

4.2. “Marriage phobia”: pessimists under the trap of media cognition and perfectionism (accounting for 27%)

“Fear of marriage” is mainly women aged 21-23, with a high proportion of undergraduate education background, and their monthly income is usually less than 5000 yuan. Most of them are in love, but they clearly reject marriage.

From the perspective of group characteristics, women account for a significant proportion in the group of fear of marriage. The Research Report on Family and Marriage of the Chinese Academy of Social Sciences^[9] shows that 73.4% of women were afraid of marriage, and 34% of them refused marriage because of “fear of fertility”, which was 22 percentage points higher than that of men. Among the factors that cause fear of marriage, the impact of the media environment should not be underestimated, according to Tencent News’ 2023 Youth Marriage Survey. According to social learning theory (Bandura, 1977)^[10], the excessive media coverage of negative marriage events leads to substitution reinforcement, which makes people who are afraid of marriage internalize others’ negative marriage experiences into their own fear of marriage. Sixty-two percent of respondents believe that “social media exacerbates the fear of marriage”. The factors such as the solidification of gender roles, the high cost of marriage, the high uncertainty of the future and the original family are intertwined. Shaping the marriage attitude of the people who fear marriage together.

4.3. “Lazy marriage group”: “low desire group” in the wave of time and space compression and individualization (accounting for 22%)

The “Lazy marriage group” is mainly young people aged 24-26, with a relatively balanced proportion of men and women, and most of them have a bachelor’s degree. With a monthly income of 5000-10000 yuan, they are single but open to marriage.

This group is generally faced with the dilemma of “wanting to fall in love but lacking time”. The main reason for this dilemma lies in the high-intensity working mode. According to the 2023 Youth Survival Report of Zhaopin, 76% of the “996” practitioners admitted that they had no time to fall in love. Working long hours not only greatly consumes their energy, but also severely compresses their social time. Through the theory of time poverty (Goodin, 2005)^[11], we can deeply understand their behavioral patterns. Intensive work leads to the fragmentation of disposable time, and it is difficult to devote enough time and energy to manage relationships and find partners, which directly weakens their willingness to invest in marriage and love, and makes the attitude of this group towards marriage and love gradually become “low desire”. Survey of Chinese Social Mentality^[12]: According to the provided data, 48% of young people believe that “the

quality of single life is higher than that of marriage,” and the number of young people with a master’s degree has surged to 61%. This demographic places greater emphasis on the quality of life and immediate personal satisfaction. Consequently, marriage, which necessitates long-term commitment and numerous responsibilities, becomes significantly less appealing.

4.4. “Unmarried People”: Awakened People in De-traditionalization and Gender Revolution (13%)

“Unmarried people” are mainly highly educated women aged 27-29, with a higher monthly income, usually more than 20000 yuan. They are single and steadfastly refuse to marry.

With the development of the times, the awareness of gender equality continues to awaken, and the proportion of women in the “unmarried group” is gradually increasing. China Family Development Report^[13] shows that from 2010 to 2020, the unmarried rate of women aged 30-39 climbed from 4.3% to 14.7%. From the perspective of theoretical and practical factors, the second demographic transition theory (Lesthaeghe,2010)^[14], the prevalence of individualism and the enhancement of gender equality consciousness in post-modern society have promoted the de-institutionalization of marriage. It makes the “unmarried people” pay more attention to personal growth and the realization of self-worth, and no longer regard marriage as the only way of life. Under the punishment theory of motherhood (Budig, 2014), highly educated women are more inclined to put career development and personal value realization in the first place. Furthermore, the “China Household Finance Survey”^[15] conducted by Southwestern University of Finance and Economics reveals that 29% of women in first-tier cities with property explicitly stated they “do not need to rely on marriage for financial security,” demonstrating how economic independence grants some women greater freedom in marital decisions. This phenomenon profoundly reflects the growing conflict between women’s rising self-awareness and traditional family division of labor patterns.

5. Conclusion

Through the questionnaire survey and K-Means cluster analysis, the results show that: At present, the unmarried people are divided into those who are worried about marriage: economic rationality and compromise in the risk society, and those who are afraid of marriage: media cognition and perfect master. Pessimists under the Righteousness Trap, Lazy Marriage Clan: “Low Desires” in the Wave of Time and Space Compression and Individualization, Unmarried Clan: De-Traditionalization and Sex There are four categories of awakened people in other revolutions. The differences of marriage and love attitudes among the four groups reflect the structural contradictions of economic pressure, social culture, gender awareness and other dimensions.

Funding

2024 Zhejiang Normal University National College Student Innovation and Entrepreneurship Training Program Project “Fear of Love” or “Fear of Marriage,” Exploration of the Phenomenon of Unmarriage in the New Media Era—An Empirical Study Based on the Decline of Marriage and Childbearing Rate in Zhejiang Province (Project No.: 202410345030)

Disclosure statement

The author declares no conflict of interest.

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