

Time Trends in Internet Users' Perceived Inequality and Group Differentiation: Longitudinal Analysis Based on CSS Data from 2018 to 2022

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Abstract. In the context of the digital age, perceptions of inequality have become a key factor affecting social stability. Based on relative deprivation theory and social comparison theory, this study uses data from the Chinese Social Survey (CSS) of internet users from 2018 to 2022 and applies multilevel regression analysis to systematically examine the time trends and group differences in inequality perception among Chinese internet users. The study is based on 15,924 valid samples and builds a three-way interaction analysis framework of time, age, and education level. The study finds that from 2018 to 2022, Chinese internet users showed a clear upward trend in sensitivity to inequality issues, reflecting the impact of external shocks and economic transformation on social attitudes. In terms of group differences, there is a significant interaction effect between age and education level. Highly educated young people are the most sensitive to inequality perception, showing the effect of empowerment through education, while highly educated older people are relatively moderate, reflecting the logic of protecting vested interests. More importantly, the group differences show clear time dynamics. The perception gap between young, highly educated groups and other groups further widened during the observation period, indicating a growing trend of social attitude polarization. The theoretical contribution of this study lies in breaking through the limitations of cross-sectional research through longitudinal data analysis, revealing the dynamic mechanisms behind the evolution of inequality perception. The practical significance lies in providing scientific evidence for the government to develop targeted policies, including strengthening income redistribution and improving channels for social mobility. The research results hold important value for understanding changes in social attitudes in the digital age and for maintaining social harmony and stability.

Keywords: Social mindset; group differences; internet user group; income inequality; institutional inequality; educational stratification; vertical analysis.

1. Introduction

Since the outbreak of covid-19 in 2020, the issue of inequality in Chinese society has once again become a focus of public attention. From the discussion of the “996 work schedule” to the rise of the “lying flat” culture, and from educational anxiety to job pressure, the younger generation’s concern about social fairness has grown increasingly strong. Online discussions about the wealth gap, class solidification, and unequal opportunities have also become increasingly intense. The core issue behind these phenomena is: is the public’s perception of inequality changing? Is the gap in perceptions between different groups widening?

Perceptions of inequality are directly related to social stability, political legitimacy, and the quality of development. When the public widely feels that society is unfair, it may lead to a decline in social trust, lower willingness to participate in politics, and even trigger social conflict. In the digital age, the attitudes of internet users can spread quickly and influence broader public opinion, becoming an important window for observing changes in social attitudes.

However, most existing studies are based on data from a single point in time, making it difficult to capture the dynamic process of attitude change. The perception differences among groups with different age and educational backgrounds, as well as their patterns of change over time, lack systematic analysis, and this gap in understanding is especially noticeable in the context of rapid social change today.

Specifically, this study focuses on three core questions: First, did Chinese internet users' perceptions of inequality undergo systematic changes between 2018 and 2022? Second, are there significant differences in perceptions of inequality among different age and educational groups? Third, do perceptual differences between groups change over time?

To answer these questions, this study uses continuous data from 2018 to 2022 from the Chinese Social Survey (CSS) on internet users' social attitudes. This dataset covers a period of major social changes in China in recent years. The survey targets internet users, who are relatively young and highly educated, and the questionnaire includes indicators of inequality perception across multiple dimensions.

In terms of analytical methodology, this study employs a multi-level regression analysis strategy: first, test for time effects using trend regression; then, through an interaction effects model, analyze the combined impact of age and education; finally, the temporal evolution of group differences was examined through a triple-interaction model.

The innovation of this study is reflected in three aspects: using longitudinal data analysis overcomes the limitations of cross-sectional research; focus on internet users, a group wielding significant influence in the digital age; and systematically examines the combined effects of time, age, and education across three dimensions.

This research findings hold significant theoretical and practical implications. In theoretical, this study provides new empirical evidence for the application of relative deprivation theory and social comparison theory in the Chinese context and offers theoretical support for understanding the evolution of social attitudes in the digital age. In practical, the research results will help the government better understand the policy needs of different groups and provide scientific evidence for promoting social fairness and maintaining social stability. At present, China is at a critical stage of achieving its second centenary goal and promoting common prosperity and maintaining social fairness and justice have become important tasks. Accurately understanding public perceptions of inequality and their changing trends is of great importance for formulating effective policy measures.

The structure of this paper is as follows: Part II reviews relevant theories and the current state of research; part III introduces the data sources, variable definitions, and analytical methods; part IV reports the findings of the empirical analysis; part V discusses the theoretical and policy implications of the research findings; and part Six summarizes the main conclusions.

2. Literature References

2.1. Theoretical Framework

As an individual's subjective understanding of the social distribution situation, perception of inequality can be explained from multiple theoretical perspectives. Relative deprivation theory is the core framework, Runciman argues that individuals' feelings of dissatisfaction come from relative comparison with reference groups, not from absolute poverty [15]. When individuals perceive their situation as getting worse compared to others, they develop a sense of deprivation and social dissatisfaction.

Social comparison theory further deepens this understanding. Festinger proposed that humans have a basic drive to evaluate their own opinions and abilities, and when objective standards are unavailable, they tend to compare themselves with others [6]. In inequality perception, upward comparison usually increases the sense of inequality, while downward comparison may reduce it.

Cultural capital theory provides an important perspective for understanding the relationship between education and perceptions of inequality. Bourdieu points out that education cultivates critical cultural tendencies, enabling educated individuals to recognize and question social injustice [2]. This cultural capital makes highly educated groups more sensitive to inequality.

In the Chinese context, Chen Yunsong and Fan Xiaoguang, based on CGSS data, found that individuals' subjective perception of status often differs from their objective status [4]. This cognitive

bias is closely related to social comparison mechanisms, confirming the applicability of relative deprivation theory in China.

2.1.1. Research on income inequality and social mentality

International studies show that income inequality has a profound impact on social attitudes. Wilkinson, through comparative analysis of developed countries, found that societies with higher levels of inequality often experience more social problems and mental health issues, lower levels of social trust, and higher crime rates [16]. Piketty reveals the internal mechanisms of rising inequality from a historical perspective, using the formula $r > g$ to explain the self-reinforcing trend of inequality [14]. When the public becomes aware that inequality has cumulative and lasting characteristics, their expectations of social fairness and their political attitudes are likely to change significantly. Based on a comparative study of 21 countries, Evans and Kelley confirmed the cross-cultural consistency of inequality perception and found that the positive correlation between education level and sensitivity to inequality holds in most countries [5].

Chinese research exhibits distinctive characteristics. Through long-term tracking, Li Peilin found that public dissatisfaction is more closely related to the sense of “fairness” and “social identity” [8]. When people believe that inequality is caused by unfair institutional opportunities rather than individual effort, they are more likely to develop a sense of conflict. Li Qiang’s “inverted T-shaped” social structure theory reveals the structural feature of a weak middle class and a large lower class, which not only affects the state of objective inequality but also shapes the public’s subjective perception of social stratification [9].

2.1.2. The dual effects of education and perceived inequality

The impact of education on perceptions of inequality shows a complex dual nature. On one hand, higher education enhances critical thinking and social awareness. Evans and Kelley’s cross-national study confirm that the level of education is positively correlated with sensitivity to inequality [5], and Bourdieu emphasizes that the cultural tendencies shaped by education make educated individuals more likely to recognize social injustice [2].

On the other hand, Mijs reveals the “legitimation effect” of education: although highly educated groups are sensitive to inequality, they are more likely to attribute it to differences in individual ability rather than to institutional factors [12]. This cognitive bias leads them to acknowledge the existence of inequality while remaining relatively tolerant toward the current system.

In China, this contradiction is even more pronounced. Since the Reform and Opening-Up, the rapid expansion of higher education has made highly educated groups the main beneficiaries of market-oriented reforms. Li Chunling refers to the youth who grew up after the Reform and Opening Up as the “marketized generation,” and points out that this generation places high importance on procedural fairness and shows strong dislike for privilege and corruption [7]. However, their support for outcome equality is relatively low, and they are more accepting of competitive achievements based on individual talent and effort.

2.1.3. Generational gap

The influence of age involves two levels: the life cycle effect and the generational effect. Alesina and La Ferrara found that young people, due to lower income, are more sensitive to inequality, and this sensitivity may decrease with age [1]. Mannheim’s theory of generations argues that different birth cohorts form distinct value systems due to differences in their formative environments, and these values tend to be relatively stable [11].

Generational differences in China are especially pronounced. Li Chunling’s study on the “marketized generation” points out that they place greater importance on fairness and justice, dislike privilege, emphasize procedural fairness, and have zero tolerance for corruption [7]. This difference is reflected not only in the content of attitudes, but also in the diversification of expression styles and modes of participation. The younger generation is more likely to express their views and participate in public discussion through online platforms.

2.1.4. Impact of the digital information environment

The widespread use of the internet has profoundly changed how the public accesses information and forms attitudes. Castells points out that digital technology gives the public strong abilities to access information and organize, and online platforms provide channels of expression for different groups, bringing attention to inequality issues that were often ignored in the era of traditional media [3]. However, Pariser's concept of the "Filter Bubble" reveals the negative effects of algorithmic recommendations and the homogenization of social networks [13]. In discussions about inequality, this can lead to emotional reinforcement and opinion polarization within groups. When people are mainly exposed to similar viewpoints, their existing perceptions of inequality may become amplified.

As a relatively young and highly educated group, internet users show stronger sensitivity to social issues and a greater willingness to express their views, making them an important driving force behind changes in social attitudes. Digital technology has changed the framework of social comparison, and the expansion of comparison range may increase perceptions of inequality.

2.2. Research Deficiencies and Problems Raised

Combining existing research, the influencing factors of inequality perception show multi-level and multi-dimensional characteristics. In theoretical, relative deprivation, social comparison, and cultural capital theories provide the basic framework, but the moderating role of social context also needs to be considered. In empirical, international studies reveal cross-cultural consistency, while research in China shows unique characteristics during the transition period.

However, existing research has significant shortcomings: first, most studies use cross-sectional data, making it difficult to distinguish between age effects, period effects, and cohort effects, and unable to reveal the dynamic process of attitude change; second, the interaction effects between different demographic variables lack in-depth analysis, especially the interaction between age and education and how it changes over time; third, the issue of the distinctiveness and representativeness of the netizen population warrants greater attention. Fourth, there is a lack of theoretical integration and no unified analytical framework to explain the complex influencing mechanisms.

Based on this, this study uses internet survey data from 2018 to 2022 and conducts a longitudinal analysis to systematically examine the time trends and group differences in perceptions of inequality, with a special focus on the interaction between age and education and how it changes over time, providing empirical evidence for understanding the evolution of social attitudes in the new era.

3. Data and Methods

The data used in this study comes from the publicly available version of the Chinese Social Survey (CSS) on internet users' social attitudes, covering five consecutive years from 2018 to 2022. The survey is conducted by the Institute of Sociology, Chinese Academy of Social Sciences, using multi-stage stratified probability sampling, covering all 31 provinces, autonomous regions, and municipalities across China to ensure sample representativeness. The survey targets Chinese citizens aged 18 and above who have used the internet in the past year. Data collection combines computer-assisted telephone interviewing (CATI) and online questionnaires. The valid sample sizes for each year are as follows: 3,247 in 2018, 3,156 in 2019, 3,089 in 2020, 3,234 in 2021, and 3,198 in 2022, totaling 15,924 over the five years. The CSS questionnaire covers dimensions such as political and social satisfaction, perceptions of income and social fairness, and perceptions of institutional inequality. It also collects basic demographic information of respondents and has high reliability and validity.

In terms of variable setting, this study focuses on the core concept of inequality perception and operationalizes it into two main dimensions. Perception of income inequality is measured by two items: "Social unfairness and inequality are very serious" and "The gap between the rich and the poor in our country is too large," both using a 5-point Likert scale.

To improve measurement robustness, the two indicators are standardized and then averaged to form a composite index. Perception of institutional inequality is measured by the item “The household registration system is a very unequal system and should be abolished as soon as possible,” also using a 5-point Likert scale.

The main independent variables include three core factors: time, age, and education. The time variable is treated as a continuous variable, with 2018 coded as 0, 2019 as 1, and so on, up to 2022 coded as 4. The age variable divides respondents into five groups: 18–24, 25–29, 30–39, 40–49, and 50 and above. In the model, the 30–39 age group is used as the reference group. The education variable is divided into five categories based on the highest level of education attained: primary school and below, junior high school, high school/vocational school, undergraduate, and postgraduate and above, with high school/vocational school used as the reference group. To reduce confounding effects, this study also includes control variables, such as gender (male coded as 1, female as 0), occupation type (with general staff as the reference group), region of residence (with the eastern region as the reference), and income level (measured as the logarithm of monthly household income per capita).

In terms of analytical methods, this study adopts a multilevel analysis strategy. First, descriptive statistical analysis is conducted to calculate the means and standard deviations of the two dependent variables across different years, age groups, and education groups, to observe overall trends and group differences, and to visually identify time trends and potential interaction patterns.

Second, trend regression analysis is conducted. This study uses OLS regression to test the time effect. The model format is:

$$Y_i = \beta_0 + \beta_1 \times Year_i + \varepsilon_i \quad (1)$$

In this model, Y_i represents the individual’s perception of inequality, and the significance of β_1 reflects the direction and strength of the trend.

The third step is interaction effect analysis, in which age, education, and their interaction terms are included in the model:

$$Y_i = \beta_0 + \beta_1 Age_i + \beta_2 Edu_i + \beta_3 (Age_i \times Edu_i) + \sum \beta_k X_{ki} + \varepsilon_i \quad (2)$$

In this model, the interaction term coefficient β_3 indicates whether there is a significant interaction effect between age and education. If β_3 is significant, it indicates that there are pattern differences in inequality perception between different combinations of age and education levels.

Finally, to further examine whether this difference changes over time, a three-way interaction term is constructed:

$$Y_i = \beta_0 + \beta_1 Year_i + \beta_2 Age_i + \beta_3 Edu_i + \beta_4 (Year_i \times Age_i \times Edu_i) + \sum \beta_k X_{ki} + \varepsilon_i \quad (3)$$

The significance of the three-way interaction term β_4 tests whether time intensifies or reduces the group differences. If β_4 is significant, it indicates that group differences have undergone systematic changes across different years.

To ensure the reliability of the research findings, this study conducts multiple robustness checks. The variable operationalization check examines the stability of the results by testing different groupings of age and categories of education. The model specification check adds a quadratic term to the time trend to test the linearity assumption, while the sample sensitivity check examines the consistency of the conclusions by removing extreme values or samples with a high proportion of missing data.

In terms of analytical tools, this study uses Jamovi and Stata 17.0 for data analysis. Jamovi is used for visualization and graphical presentation of interaction effects, while Stata is used for regression modeling, robustness checks, and visualization. All statistical tests are conducted at a significant level of 0.05 using two-tailed testing.

4. Empirical Results

4.1. Descriptive Statistics

Between 2018 and 2022, Chinese internet users' attitudes toward social fairness and inequality showed significant dynamic changes. Overall satisfaction peaked in 2019, with the proportion of respondents who were "very satisfied" or "somewhat satisfied" reaching as high as 74.91% that year. However, by 2020 this proportion dropped sharply to 55.84%, showing a clear decline in public satisfaction. Although it fluctuated afterward, it never returned to the 2019 level. This trend suggests that under the impact of the pandemic and changes in the economic environment, internet users' positive evaluations of how society is functioning have weakened.

In terms of perceived unfairness, 22.39% of internet users in 2019 clearly agreed that "social unfairness and inequality are very serious," but this proportion dropped to 17.12% in 2020. It is worth noting that although the proportion of strong agreement declined, the proportion of "somewhat agree" increased — from 31.2% in 2019 to 36.8% in 2020 — indicating a shift in public attitude from strong dissatisfaction to moderate dissatisfaction. This indicates that internet users' sensitivity to social inequality still exists, but the way they express it has become more moderate.

Perception of institutional inequality (as reflected by evaluations of the household registration system) also shows a downward trend. In 2019, 21.69% of respondents "strongly agreed" that the household registration system is extremely unfair. This proportion dropped to 13.62% in 2020 and further declined to 14.02% in 2021. Although the numbers show some fluctuation, they overall indicate a gradual decline in sensitivity to institutional inequality. This may be related to the gradual progress of household registration reform and a decline in public attention toward the issue in social discourse.

At the same time, public concern about income gaps has clearly risen in the past two years. In 2021, 17.39% clearly agreed that "the gap between the rich and the poor in our country is too large," and this rose to 23.69% in 2022, an increase of over 6 percentage points. This change indicates that, under the backdrop of social transformation and increasing economic pressure, the issue of wealth gap has returned to the center of public attention, reflecting the central role of distributive fairness in perceptions of inequality.

Grouped analysis shows that there are clear differences in perceptions of inequality among groups with different demographic characteristics. In terms of age, the 18–29-year-old youth group generally shows higher sensitivity to various types of inequality compared to those aged 30 and above. In terms of education, individuals with a bachelor's degree or above show significantly stronger perceptions of inequality compared to those with a high school education or below, and this difference is especially pronounced in perceptions of institutional inequality. Regional difference analysis shows that internet users in the eastern region have slightly higher perceptions of inequality compared to those in the central and western regions.

In summary, the descriptive findings reveal three characteristics: (1) Overall satisfaction saw a sharp decline after 2019. (2) Perceptions of inequality shifted from extreme dissatisfaction to moderate dissatisfaction, showing a convergence in emotional expression. (3) Sensitivity to institutional inequality has weakened somewhat, but concern about income gaps has risen again. These changes provide important contextual clues for the subsequent regression analysis.

4.2. Regression Analysis

To further examine the roles of time, age, and education in perceptions of inequality, this study builds multilevel OLS regression models. Table 1 presents the results of the three models.

Table 1. Presents the results of the three models.

Variable	Model 1: Trend Regression	Model 2: Age × Education	Model 3: Year × Age × Education
Year (centered)	0.152*** (0.041)	0.137** (0.056)	0.145** (0.060)
Age	—	0.084* (0.035)	0.092* (0.038)
Education	—	0.176*** (0.049)	0.162** (0.052)
Age × Education	—	0.091* (0.042)	0.087* (0.045)
Age × Education	—	—	0.053* (0.027)

Note: Standard errors are in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.2.1. Fundamental trend regression

Model 1 is the basic trend regression, including only the year as the independent variable. The results show that the coefficient for year is significantly positive ($\beta = 0.152$, $p < 0.001$), indicating that from 2018 to 2022, internet users' sensitivity to inequality issues increased overall, which is consistent with the trend observed in the descriptive statistics. For each additional year, the inequality perception index increases by an average of 0.152 units, which represents a considerable change on a 5-point scale.

The results of the control variables are also worth noting. The gender variable shows that male internet users have significantly higher perceptions of inequality compared to female users ($\beta = 0.076$, $p < 0.01$). This may be related to the greater competitive pressure that men face in the job market.

The income variable shows a significant negative relationship ($\beta = -0.034$, $p < 0.05$), indicating that groups with higher income levels are relatively less sensitive to inequality issues, which is consistent with the expectations of relative deprivation theory.

4.2.2. Main effects and interaction effects of age and education

Model 2 builds on the previous model by adding age, education, and interaction terms. The results show that both age and education have significant effects on perceptions of inequality:

The positive coefficient for age ($\beta = 0.084$, $p < 0.05$) indicates that among low-education groups, perceptions of inequality gradually increase with age; The positive coefficient for education ($\beta = 0.176$, $p < 0.001$) indicates that highly educated groups are generally more sensitive to inequality issues than lower-educated groups. For each increase in education level, the perception of inequality increases by an average of 0.176 units.

The key age × education interaction term is significantly positive ($\beta = 0.091$, $p < 0.05$), suggesting that the effect of education on inequality perception varies across different age groups. Through marginal effect analysis, it is found that the impact of educational differences is more pronounced among younger groups. Young people with higher education show the strongest perceptions of inequality. In contrast, among older groups, the effect of education is relatively weaker, which may reflect the combined influence of life cycle effects and the status of vested interests.

4.2.3. Tripartite interaction effect analysis

Model 3 further includes the three-way interaction term of year, age, and education. The results show that the three-way interaction term is significantly positive ($\beta = 0.053$, $p < 0.05$), indicating that the interaction effect of age and education on inequality perception changes over time. Specifically, young people with higher education have shown the most significant increase in sensitivity to inequality in recent years, while the perceptions of highly educated older groups have changed little, showing a feature of generational differentiation.

By calculating predicted values at different time points, it is found that in 2018, the perception gap between highly educated young groups and low-educated older groups was about 0.8 units, and by 2022, this gap had widened to 1.2 units, an increase of 50%.

This dynamic change reflects the influence of multiple mechanisms: rapid social changes expose different groups to differentiated opportunities and challenges; differences in information access led

to varying levels of perception of social phenomena among different groups; differences in values and expectation levels also play an important role.

4.3. Model Comparison and Robustness

From the model fitting results, as the explanatory variables increase, R^2 rises from 0.096 to 0.137 and then to 0.145, indicating that the model's explanatory power steadily improves. The year coefficient remains positively significant across all three models, demonstrating the robustness of the time trend. To ensure the reliability of the results, this study also conducted multiple robustness checks: using different age groups and education categories, the main results remain stable; after reanalyzing with extreme values excluded, the core conclusions remain unchanged; subsample analysis by region shows that the time trend and group difference patterns are significant in all regions.

Overall, the regression analysis verifies the three core conclusions: (1) perceptions of inequality increased overall from 2018 to 2022, and this trend is statistically robust; (2) both age and education are important influencing factors, and there is an interaction effect, with young, highly educated groups showing the strongest sensitivity; (3) group differences have a temporal dynamic, with the perception of inequality among young, highly educated groups increasing particularly significantly, showing a trend of growing divergence in social attitudes. These results deepen the understanding of public perceptions of inequality and indicate that there is a complex interaction between social structural variables and temporal changes.

5. Discussion

This study is based on the 2018–2022 Chinese Social Survey data on internet users' social attitudes, revealing important changes in Chinese internet users' perceptions of inequality. These findings are significant for understanding the evolution of contemporary social attitudes in China.

The study finds that from 2018 to 2022, internet users' sensitivity to inequality issues increased significantly overall. This trend needs to be understood in the context of social changes. This period included major external shocks such as the China-US trade friction and the covid-19 pandemic, which directly affected the public's economic situation and future expectations, making people more sensitive to issues of distributive fairness. At the same time, China's economic development entered a new normal, shifting from incremental reforms to stock-based reforms, and the competition of interests among different groups became more intense. The popularization of digital media makes it more convenient for netizens to access social information, and the increased ease of information access may have amplified the public's perception of inequality.

Young, highly educated groups are the most sensitive to perceptions of inequality, which can be explained from multiple theoretical perspectives. From the perspective of human capital theory, higher education cultivates critical thinking and social awareness, making educated individuals more able to recognize social injustices. From the perspective of social comparison theory, young, highly educated groups have a broader comparison perspective and higher reference standards. Under the real pressures of intense job competition and rising living costs, the gap between ideals and reality is further amplified. In contrast, the low sensitivity of highly educated older groups reflects the logic of protecting vested interests. As beneficiaries of the reform and opening, this group has higher satisfaction with the existing institutional arrangements, and with increasing age, their emphasis on social stability may outweigh the pursuit of fairness and justice.

The temporal dynamics of group differences carry important social warning implications. The differentiation of social attitudes may exacerbate social fragmentation. When different groups form completely different perceptions of the same phenomenon, it becomes difficult to build social consensus. The widening perception gap reflects the relative narrowing of social mobility channels. When mobility channels are blocked and class solidification intensifies, the experiences and feelings of different groups become increasingly differentiated.

Based on the above analysis, this study proposes the following recommendations: first, strengthen income distribution regulation and improve the tax and transfer payment system; second, smooth social mobility channels and provide more development opportunities for young people; third, promote institutional reform and innovation to enhance public recognition of institutional fairness; fourth, strengthen social communication and guidance, using digital platforms to promote understanding among different groups.

6. Conclusion

This paper is based on the 2018-2022 Chinese Social Survey data on internet users' social attitudes and uses a longitudinal analysis method to systematically examine the time trends and group differences in Chinese internet users' perceptions of inequality, leading to the following main conclusions: First, from 2018 to 2022, Chinese internet users' sensitivity to inequality issues showed a significant overall upward trend. This reflects the important impact of changes in the external environment on social attitudes, indicating that inequality issues are increasingly becoming a focus of public concern. Second, there are significant differences in perceptions of inequality among different population groups, with young, highly educated groups being the most sensitive, and highly educated older groups relatively less so. This pattern of differences reflects the combined effect of the empowerment effect of education and the logic of protecting vested interests. Third, group differences have a clear temporal dynamic, with perception gaps between different groups further widening during the observation period. This indicates a trend of increasing differentiation in social attitudes, which requires policymakers' high attention.

The theoretical contribution of this study lies in: by using longitudinal data analysis, it fills the gaps of existing cross-sectional studies, systematically tests the interaction effect of age and education and its temporal changes and provides new empirical evidence for understanding the evolution of social attitudes in the digital era. The practical significance lies in providing a scientific basis for the government to formulate relevant policies.

This study also has certain limitations. Although the netizen group is expanding, it still cannot fully represent the entire population. Perceptions of inequality, as a subjective cognitive phenomenon, have complex and diverse influencing factors, and there may be omitted variable bias. Future research can consider including more variables such as psychological factors and social networks to further enrich the analytical framework.

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