

# The Impact of Internet use Frequency on the Gender Role Concept of Chinese Residents: An Empirical Study based on CGSS2021

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## ABSTRACT

In the traditional society, the gender role concept of "men are the main outside, women are the main inside" restricts the individual development of women. There is no research to answer the question of the role of the Internet in the gradual change of gender role concepts. Based on this, this paper uses the data of the 2021 China General Social Survey (CGSS) to explore the impact of the use of the Internet on the gender role concept of Chinese residents. The results show that the higher the frequency of Internet use, the more equal the gender role concept of Chinese residents.

**Keywords--** Internet Usage Frequency, Gender Role Concept, Gender Equality

China has also reached a consistent conclusion that a more equal gender role concept has a significantly positive impact on the employment participation and income of Chinese female labor force [4].

It is worth noting that for a long time in the past, China's Internet communication technology has developed rapidly. At present, some scholars have found that the development of the Internet has different degrees of influence on political activities, economic development, social psychological shaping and other aspects of modern society [5]. For example, the use of the Internet can significantly promote the non-agricultural employment of rural residents and narrow the income gap [6]. However, up to now, few studies have explored the impact of Internet use on the gender role concept of Chinese residents based on empirical data.

Based on this, on the basis of previous studies on gender role concepts, this paper further explores the impact of the Internet as a medium on Chinese residents' gender role concepts, filling in the missing part in previous studies on gender role concepts. The data in this paper come from the 2021 China General Social Survey (CGSS), and the research results show that the use of the Internet promotes more equality in the gender role concept of Chinese residents. Through heterogeneity analysis, it is found that the effect of women is significantly greater than that of men, and the effect is more significant in the group with higher education level.

## I. INTRODUCTION

Gender equality is a basic state policy that China has long adhered to to promote social development. However, according to the gender statistics report released by the National Bureau of Statistics in 2020, although China's female labor force participation rate is higher than the world average and the gender gap in education has further narrowed, Chinese women's political participation rate, paid labor force participation rate and professional and technical employment rate are still significantly lower than men's. These facts show that the gender role concept in Chinese society is still in the transition stage, and the traditional gender role concept of "men dominate the outside, women dominate the inside" and "men are strong and women are weak" is still affecting the social reality.

Gender role concept, also known as gender role attitude, reflects people's views and attitudes on gender equality, and expresses people's cognition on the social roles that men and women should assume. A large number of studies have shown that residents of both developed and developing countries generally hold the idea that "men should pay attention to the breadwinner, while women should take more care of the family and raise children" [2]. The concept of gender role has a strong impact on women's education, career development and even family and marriage happiness [3]. Similarly, scholars' research in

## II. RESEARCH DESIGN

The data used in this paper are the 2021 Chinese General Social Survey (CGSS), which comprehensively collects the data at the social, community, family and individual levels [7]. Among them, the 2021 China General Social Survey is divided into the core module, the theme module and the additional module. Combined with the research topic of this paper, the influence of the frequency of Internet use on the gender role concept of residents, after eliminating the missing values of the main variables, a total of 5354 samples are obtained.

The explained variable in this paper is gender role

concept. In the social attitude section of the questionnaire, five questions were asked: "Men put their career first, while women put their family first", "men are naturally better able than women", "a good job is not as good as a good marriage", "When the economy is in recession, female employees should be fired first," and "couples should share housework equally". The answers were "strongly disagree, somewhat disagree, indifferent agree disagree, somewhat agree and strongly agree", which were assigned a score of 1-5 respectively. Higher scores on the first four items indicate more traditional gender role beliefs, while lower scores on the last item indicate more traditional gender role beliefs. Therefore, the answer score of the last question is re-assigned in this paper, and the answer with the most traditional gender role concept is assigned a value of 5, which is consistent with the first four questions. Referring to the research of Qing Shisong [8], this paper adopts the commonly used method of average synthesis, and takes the average value of each respondent's choices after adding them up, and the comprehensive score obtained is used as the explained variable. Such a method can not only avoid the collinearity problem between items, but also ensure the comparability between samples.

The explanatory variable in this paper is the frequency of Internet use. In the lifestyle section of the questionnaire, "How did you use the Internet (including mobile Internet access) in the past year?" the options are "never, rarely, sometimes, often, very frequently," with the values 1-5 respectively.

The control variables in this paper can be divided into the following three categories: individual characteristic variables, family characteristic variables and institutional variables. Individual characteristic variables include age, gender, religious belief, income level, education level, and work situation. Household characteristic variables include spousal situation and

number of children. Institutional variables include household registration and political status. In the household registration variable, the rural household registration is assigned a value of 0 and the urban household registration is assigned a value of 1. For political status, this paper classifies the options as non-party members and party members, and assigns values of 0 and 1 respectively.

This paper uses multiple regression analysis method to verify the influence path of Internet use frequency on gender role concept, and constructs the following OLS regression model:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 \text{Controls} + \mu$$

The explained variable Y is the score of gender role concept; the core explanatory variable X1 is the frequency of Internet use; and the control variables include other important explanatory variables except the frequency of Internet use. The specific control variables include gender, age, educational level, income, religion, working situation, spouse situation, number of children, household registration and political status. Is the random disturbance term.

### III. EMPIRICAL ANALYSIS

The distribution of samples is relatively uniform and the specific descriptive statistics of variables are shown in Table 1 below. The explained variable is the gender role concept, which varies from 1 to 5, and the greater the value is, the more traditional the gender role concept is. The core explanatory variable is the frequency of Internet use, which varies from 1 to 5 and the mean value of the sample is 3.466. Among them, the option with the largest proportion is very frequent use of the Internet, accounting for 39.56%.

**Table 1:** Descriptive statistics of variables

Variables	Definition and value	Mean value	Standard deviation	Scope
Gender role concept	The larger the value, the more traditional the gender role concept	2.549	0.782	1-5
Frequency of Internet usage	Frequency of Internet use in the past year: never =1, very frequently =5	3.466	1.618	1-5
Political status	Non-communist Party member =0, Communist Party member =1	0.148	0.355	0, 1
Household registration	Rural household registration =0, non-rural household registration =1	0.465	0.499	0, 1

Children	No children =0, with four or more children =4	1.535	1.002	0-4
Spouse	No spouse =0, with spouse =1	0.767	0.423	0, 1
Work	No work =0, off-farm work =1, and farm work =2	1.194	0.654	0-2
Education	Elementary school and below =1, middle school =2, high school and above =3	2.146	0.826	1-3
Religion	Religious =0, non-religious =1	0.931	0.254	0, 1
Gender	Female =0, male =1	0.507	0.499	0, 1
Income	The logarithm of individual annual income is taken	10.161	1.350	2.996
Age	2021- Year of birth	51.788	16.369	18

Considering that there may be internal correlation among variables, this paper calculates the inflation factors of each variable before the formal regression. The results show that the VIF of each variable is less than 2.26, and the overall VIF of the model is 1.49, indicating that the degree of collinearity among the variables is within a reasonable range.

In order to avoid the influence of heteroscedasticity, robust standard errors are used in this model, and the regression results are shown in Table 3. Model 1 is a regression model of the frequency of Internet use and gender role beliefs after the control variables of individual characteristics are added. In general, the F-statistic of the model is 206.1, the adjusted R-square is 0.204, and the chi-square test value is significant at the statistical level of 1%, indicating that the overall fitting effect of the equation is good. Among them, the coefficient of the frequency of Internet use, the main explanatory variable in this paper, is  $-0.031$ , which indicates that for every unit increase in the frequency of Internet use, the score of the sample's gender role concept decreases by 0.031 units.

In Model 2, control variables of family characteristics are added on the basis of Model 1. Among the control variables of family characteristics, the effects of spouse situation and the number of children on gender role beliefs pass the test at the significance level of 1%.

Model 3 adds institutional variables on the basis of the first two models, and the F-statistic of the model is 146.13 in general.

The influence of the frequency of Internet use, the core explanatory variable in Model 3, on gender role beliefs passes the test at the significance level of 1% with a coefficient of  $-0.027$ . The higher the score of gender role

concept constructed in this paper is, the more traditional the gender role concept is, so the use of the Internet will promote the development of gender role concept towards modern equality. Among the individual characteristic variables, the score of gender role concept increased significantly by 0.006 units for every unit increase in age; In terms of gender, the score of male gender role concept is 0.229 points higher than that of female; When the logarithm of personal annual income increased by one unit, the score of gender role concept decreased by 0.030 units; For every unit increase in educational level, the score of gender role concept decreases by 0.208 units, that is, the lower the educational level is, the more traditional the gender role concept is.

Among the control variables of family characteristics, the effects of spouse situation and the number of children on gender role beliefs pass the test at the significance level of 1% and 5%, respectively. The gender role concept score of the sample with spouse is 0.084 points higher than that of the sample without spouse, which indicates that the gender role concept of the sample with spouse is more traditional; For each unit increase in the number of children, the gender role perception increases by 0.028 units.

Among the institutional variables, both political status and hukou pass the test at the significance level of 1%. The gender role concept score of party members is 0.194 points lower than that of non-party members, indicating that the gender role concept of party members is more equal; The gender role concept of the urban hukou sample is 0.128 points lower than that of the rural hukou sample, indicating that the gender role concept of the urban hukou sample is more equal.

**Table 2:** The effect of frequency of Internet use on gender role perceptions

	Model 1 OLS	Model 2 OLS	Model 3 OLS
Frequency of Internet usage	-0.031*** (0.008)	-0.032*** (0.008)	-0.027*** (0.008)
Age	0.005*** (0.001)	0.004*** (0.001)	0.006*** (0.001)
Gender	0.227*** (0.019)	0.227*** (0.019)	0.229*** (0.019)
Income	-0.048*** (0.009)	-0.050*** (0.009)	-0.030*** (0.009)
Education	-0.265*** (0.015)	-0.254*** (0.015)	-0.208*** (0.016)
Religion	-0.063 (0.039)	-0.067* (0.039)	-0.052 (0.039)
Work	-0.024 (0.015)	-0.027* (0.015)	0.002 (0.015)
Spouse		0.092*** (0.024)	0.084*** (0.024)
Children		0.038*** (0.012)	0.028** (0.012)
Political status			-0.194*** (0.027)
Household registration			-0.128*** (0.024)
Term of intercept	3.429*** (0.105)	3.375*** (0.105)	2.973*** (0.115)
Value of observation	5354	5354	5354
F	206.10	165.52	146.13
R Square	0.204	0.209	0.221
Prob>chi2	0.000	0.000	0.000

In this paper, robust standard errors are used in regression analysis to eliminate the influence of heteroscedasticity on regression results. Next, this paper will use the method of replacing the explained variable to further test the robustness of the research results.

When calculating the score of gender role concept, this paper takes the weighted average of the scores of the five questions in the questionnaire. However, some scholars believe that the reliability coefficient of the question "couples should share housework equally" is low

and should not be included in the measurement [9]. Therefore, after referring to previous studies on gender role concepts, this paper uses the question "men put career first, and women put family first" in CGSS2021 data as the explained variable for robustness test. Since the responses to this question in the CGSS data are ordered discrete variables, the OrderLogit model is used for re-estimation, and the results are shown in Table 6.

It can be seen that if only the result of one question is used as the explained variable, then the goodness of fit of the model is relatively low, but the

regression results shown by the model are still consistent with the previous conclusions. The influence of the frequency of Internet use on the gender role concept of "male dominant outside, female dominant inside" passes the test at the significance level of 1%, and its coefficient is  $-0.083$ , which indicates that the use of the Internet will make the gender role concept of residents develop towards equality. In the model with the explained variable replaced, the research conclusions of this paper pass the robustness test.

**Table 3: Robustness test**

	Model4 Ologit
Frequency of Internet usage	-0.083*** (0.023)
Variable of control	control
Value of observation	5354
Rsquare	0.0673

#### IV. RESULTS AND DISCUSSION

This paper finally draws the following conclusions: first, the use of the Internet will promote the transformation of Chinese residents' gender role concepts to the direction of equality. The benchmark regression results show that under the premise of controlling other variables, every unit increase in the frequency of using the Internet will decrease the score of residents' gender role concept by 0.027 units. In addition, after changing the explained variable, the influence of the frequency of Internet use on gender role beliefs is still significant, and the direction of influence has not changed.

Second, gender plays a moderating role in the impact of Internet use frequency on gender role beliefs of Chinese residents. In the benchmark regression, women are found to hold more equal gender role beliefs than men. Third, the level of education plays a moderating role in the effect of Internet use frequency on gender role beliefs of Chinese residents. In the benchmark regression, it is found that the more educated residents are, the more equal their gender role beliefs tend to be.

The starting point of this study is to promote the dissemination of the concept of gender equality in Chinese society. Combined with the above research conclusions, this paper puts forward the following suggestions: first, this paper believes that we should increase the investment and construction of Internet infrastructure, improve the penetration rate of the Internet, and rationally use this medium to promote the dissemination of the concept of

gender equality; Second, it shall

To improve the level of gender equality concept of Chinese residents through multiple channels, we should not only use the Internet media, but also pay attention to the influence of education level and household registration system, and focus on promoting the knowledge of gender equality of residents in areas where the concept of gender equality is still lagging behind. Thirdly, this paper observes that having a spouse has an inhibitory effect on women's concept of gender equality, so it is necessary to strengthen the ideological education of men and create a cultural atmosphere of gender equality within the family.

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