The Influence of Internet Communication and Social Order on Urban Women's Public Safety Perception

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Abstract: Safety perception is the psychological need that people desire stability and security. Enhancing the public's sense of security is an effective way to improve the overall level of national happiness, and is also an important guarantee for achieving social stability. Based on the fear of crime model and social psychology theory, this paper constructs an evaluation model of influencing factors of female public safety perception, obtains 821 valid sample data of female residents through questionnaire survey, and establishes a multiple linear regression model of influencing factors of female residents public safety perception. The results show that age, income level and women's public safety perception have positive changes. The level of education has a negative effect on women's public safety perception. Occupational type is related to women's public safety perception, but marital status is not. Media reports on negative news are negatively correlated with women's public security. The public security situation, the order of the residential area and the quality of police work are positively correlated with women's public safety perception. Based on this, this paper proposes to enhance the public safety perception of female residents from three aspects: adopting differentiated security promotion strategies, standardizing the communication order of network media, and innovating new modes of police-citizen cooperation.

1. Introduction

Women are vital to social development. Their safety perception impacts personal growth and societal progress. Since 1949, the total number of women in China has been growing, and by 2022, the total number of women in China reached 680 million, accounting for 48.85 percent of the total population. According to the Survey Report on Public Safety Perception in Chinese Cities (2018-2022), the public safety perception index of women is continuously and significantly lower than that of men. The influencing factors of public security perception are complex, which may involve many aspects such as physiology, economic level, social relations, media environment and so on. Studying the current situation and influencing factors of women's perception of public safety can reflect the overall state of public security, public security and social order of the city to a certain

extent. Understanding these factors can reflect urban public safety and guide improvement strategies, thereby enhancing women's quality of life and overall city happiness. This paper builds a model of influencing factors of female residents' public sense of security, analyzes the influencing factors of urban female residents' public sense of security by collecting data through questionnaire survey, and discusses the countermeasures to improve female residents' public sense of security.

The term "safety perception" originates from psychology. By the late 1960s, criminologists and other sociologists began to equate "safety perception" with "fear of crime"^[1,2]. Maxfield posits that public safety perception arises from physiological changes when facing difficulties ^[3]. Garofalo emphasizes the "group" characteristic of public safety perception, seeing it as emotional feedback to perceived risks and the anxiety and unease from evaluating surrounding crime environments ^[4]. Keane divides public safety perception into tangible and intangible aspects, identifying gender as a significant factor ^[5].

In 1988, China's Ministry of Public Security defined public safety perception as the public's subjective evaluation and feeling about social security status, reflecting their psychological response to the threat and protection of personal and property rights [6]. This paper defines women's public safety perception as their subjective perception and evaluation of social security and order within a specific period and space, reflecting their psychological state and activities when their personal and property rights are threatened or violated.

Subjectively, Wei pointed out that age and health impact public safety perception ^[7]. Zhu found a positive link between trust in the government, interpersonal relationships, and public safety perception ^[8]. Objectively, Pu highlighted that setting up security booths improves residents' safety perception ^[9]. Li et al. identified that crisis events, government and media responses, community responses, and individual emergency capabilities affect public safety perception ^[10]. Wu, Zhao emphasized police resource allocation, public security status, and media reports as key factors ^[11-13].

Focusing on women's public safety perception, the studies found that women's fear decreases with age, the impact of public area security on women's fear [14,15]. Little noted that life experiences, local culture, and rural development affect women's fear to varying degrees [16]. Hagerlid found that women are more susceptible to harassment and assault, leading to a lack of public safety perception^[17]. Kathleen showed that women have higher victimization rates and fear than men^[18]. From the social security perspective, Chrismas found that fear is significantly influenced by police-community relations in his study of Canadian Indigenous communities^[19]. Suk identified that adequate street lighting impacts safety perception^[20].

Improving women's public safety perception involves strategies focusing on police quality, social security, and interpersonal relationships. Cho emphasized enhancing public safety by strengthening arrests in public areas and reducing disease fear^[21]. Abbott found that increased police patrols and arrests reduce fear^[22]. Glas suggested enhancing neighborhood cohesion and community spirit to boost public safety perception^[23]. From police-civil relations, Sun and Jiang emphasized improving public safety perception by strengthening police-civil communication and building good relationships^[24,25]. Wu proposed increasing police work transparency and improving performance evaluation, and supervision mechanisms^[26]. Wang found a positive correlation between community policing and public safety perception^[27]. Zhu suggested improving information communication for equal police-civil information^[28].

Wu proposed enhancing public safety perception by addressing regional disparities, reforming distribution systems, and promoting equal public services^[29]. Wang suggested improving public safety perception through fiscal reforms and organizational innovation^[30]. Dai pointed out the need to improve public safety perception by addressing low crime costs, high governance costs, and low benefits through comprehensive security systems, public opinion guidance, public self-defense reinforcement, and refined safety perception indicators^[31]. Yue found that social security enhances

public safety perception, thereby increasing political trust^[32].

To sum up, there are many studies on the perception of public safety, but few studies on the perception of public safety of female residents. However, women's perception of public safety is more sensitive, which can better reflect the effect of urban public safety governance. Therefore, this paper uses women's public safety perception of China as an entry point, integrating demographic factors, social security education, media negative reports, social security evaluation, residential order, and police work quality into an assessment model to explore and analyze the factors influencing women's public safety perception.

2. Model and Hypotheses

2.1 Model Construction

Based on Garofalo's fear of crime model and the social psychology perspective on the fear of crime, this paper constructs an evaluation model for factors affecting women's public safety perception from subjective, objective, and police work aspects.

Based on these factors, we construct an evaluation model for women's public safety perception, as illustrated in Figure 1.

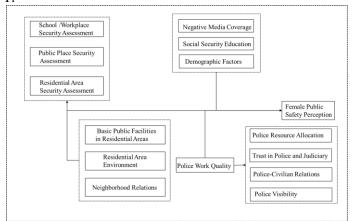


Figure 1: Evaluation Model of Women's Public Safety Perception

2.2 Hypotheses

This study draws on investigations by the 1988 research survey conducted by China's Ministry of Public Security, as well as conclusions from recent scholars and personal viewpoints, to hypothesize factors affecting women's public safety perception.

Previous studies have looked at variables such as age, gender, income level and education, with mixed results. This study focuses exclusively on women, excluding the gender variable, and examines the impact of other demographic variables on women's public safety perception.

Hypothesis 1: There is a relationship between demographic variables and women's public safety perception.

Hypothesis 1-1: Increased age positively correlates with women's public safety perception.

Hypothesis 1-2: Higher education levels negatively correlate with women's public safety perception.

Hypothesis 1-3: Increased income levels positively correlate with women's public safety perception.

Hypothesis 1-4: Employment type is related to women's public safety perception.

Hypothesis 1-5: Marital status is related to women's public safety perception.

Hypothesis 2: Social security education positively affects women's public safety perception.

This hypothesis examines whether receiving security education enhances women's public safety perception by influencing their understanding of social security and self-protection capabilities, thus affecting their evaluation of social security and risk perception.

Hypothesis 3: Negative media reports negatively affect women's public safety perception.

As a crucial information dissemination channel, media impacts psychological states and behaviors. Li Xiwei (2014) identified media as a significant component influencing public safety perception, noting that increased negative reporting heightens fear [13].

Hypothesis 4: Social security evaluation positively affects women's public safety perception.

Evaluating past and present security conditions impacts safety perception. Positive evaluations foster a sense of security and optimism about future social security, while negative evaluations incite feelings of insecurity and concern about future social security.

Hypothesis 5: Residential order positively affects women's public safety perception.

Most time is spent within residential areas (communities, neighborhoods), where the quality of order can influence safety perception. The "broken windows theory" suggests that factors like security measures and neighborly relations impact public safety perception.

Hypothesis 6: Police work quality positively affects women's public safety perception.

Police work quality, including daily operational efficiency, law enforcement effectiveness, and crime-fighting capabilities, influences public safety perception. Higher police work quality correlates with higher public safety perception, as suggested by numerous scholars.

3. Variables and Data

3.1 Construction of Measurement Indicators

Table 1: Measurement indicators for factors influencing women's public safety perception

Primary indicators	Secondary indicators		
Women's Overall Public Safety Perception	Overall Assessment of Social Public Security		
	Fear of Violent Conflict		
	Fear of Not Receiving Timely Protection		
	Concerns About Deteriorating Public Security		
Public Security Education	Community Public Security Education		
	Public Security Education in Public Places		
	Workplace/School Public Security Education		
Social Public Security Evaluation	Residential Area Security Evaluation		
	Public Place Security Evaluation		
	Workplace/School Security Evaluation		
Residential Area Order	Residential Area Public Infrastructure		
	(Surveillance, Emergency Call Signs)		
	Residential Area Environment		
	(Lighting, Community Security Measures)		
	Residential Area Neighbor Relations		
	(Familiarity Level)		
Negative Media Coverage	Negative Media Coverage Of Residential Areas		
	Negative Media Coverage About Public Places		
	Negative Media Coverage About Workplaces/Schools		
Police Work Quality	Police Resource Allocation		
	Police Visibility		
	Police-Community Relations		
	Trust in Police and Judiciary		

Based on the evaluation model of factors affecting women's public safety perception designed in this study, we have constructed a table of measurement indicators for these factors, as shown in Table 1.

3.2 Data Collection

Public safety perception is a comprehensive collection of individual perceptions and evaluations. This study did not limit the geographical areas of the respondents, including adult women from various regions across the country. The survey data was collected through online questionnaires distributed via social platforms, resulting in 855 responses, with 821 valid samples, yielding a response rate of 96%.

3.3 Reliability and Validity Testing

3.3.1 Reliability Testing

The questionnaire included both categorical and quantitative questions, with the quantitative questions using a 5-point Likert scale. The Cronbach's alpha (α) coefficient was calculated to verify internal consistency. The α coefficients for each dimension exceeded 0.7, indicating acceptable reliability for each dimension. The overall α coefficient for the questionnaire was 0.929, demonstrating that the questionnaire is reliable and suitable for further analysis.

3.3.2 Validity Testing

This study conduct confirmatory factor analysis to validate the questionnaire's validity. After removing items with low factor loadings, model fitting was performed, the fitting results are as follows: $\chi^2 = 288.931$, df = 137, $\chi^2/df = 2.109$, RMSEA = 0.068, GFI = 0.894, IFI = 0.934, TLI = 0.916, CFI = 0.933. The model fit meets basic requirements, indicating the model is acceptable.

3.4 Descriptive Statistical Analysis

The mean values for women's public safety perception, social security education, social security evaluation, residential order, and police work quality, which are 3.41, 3.65, 3.60, 3.57, and 3.23 respectively. Each of these means is above 3, indicating a generally positive attitude among women towards these aspects. However, the mean value for media negative reporting is 2.91, which is below 3, suggesting that media factors contribute more to women's sense of insecurity.

4. Results Analysis

4.1 Regression Analysis

We conducted multivariate linear regression analysis on questionnaire data to construct two models analyzing factors influencing women's public safety perception. Initially, age, income level, marital status, and educational level were included as demographic control variables in Model 1. Subsequently, items Q10-2 to Q10-4 were aggregated into a single dimension, calculating their mean to create the variable for Social Public Security Education, followed by similar processes for Negative Media Coverage, Social Public Security Evaluation, Residential Area Order, and Police Work Quality. Building on Model 1, these five variables were then included as dependent variables in multivariate linear regression analysis to form Model 2.

Table 2: Multiple Linear Regression Analysis of Factors Influencing Women's Public Safety Perception

	Model 1 β	VIF	Model 2 β	VIF
Age	0.201***	1.299	0.093*	1.367
Education	-0.037***	1.014	-0.024	1.035
Occupation	-0.195**	1.343	-0.004	1.575
Monthly Income	0.273***	1.461	0.119*	1.601
Marital Status	0.23	1.521	0.009	1.812
Social Public Security Education			0.166	2.269
Negative Media Coverage			-0.011**	2.196
Social Public Security Evaluation			0.332***	2.2
Residential Area Order			0.317***	2.927
Police Work Quality			0.005**	1.957
R ²	0.353		0.695	
Adjusted R ²	0.341	0.682		
DW	1.904	1.918		
F	39.209***	52.788***		

Note: *P\le 0.05, **P\le 0.01, ***P\le 0.001

The model results data are shown in Table 2. In Model 1, excluding other factors, only demographic variables including age, income level, marital status, and educational level were introduced to explore their relationship with women's public safety perception. The R² and adjusted R² for this regression model are 0.353 and 0.341, respectively, indicating relatively low values. The F-value is 39.209 with a p-value of 0.001, suggesting significant linear relationships in the regression equation.

Building on Model 1, which includes age, income level, marital status, and educational level as demographic variables, Model 2 incorporates five new variables: Social Public Security Education, Negative Media Coverage, Social Public Security Evaluation, Residential Area Order, and Police Work Quality. According to the results of Model 2, the R² and adjusted R² are 0.695 and 0.682, respectively. These values show a significant improvement compared to Model 1, indicating that these five new variables have a substantial impact on women's public safety perception after controlling for demographic variables. Additionally, the F-value is 52.788 with a p-value of 0.000, indicating significant linear relationships in the regression equation.

Generally, the variance inflation factor (VIF) is used to measure collinearity. Typically, VIF values between 0 and 10 indicate no multicollinearity issues, indicating the regression is effective. When VIF values exceed 10, it suggests multicollinearity, rendering the regression results invalid. Serial correlation is assessed using the Durbin-Watson (DW) statistic, where values between 1.5 and 2.5 indicate no significant residual correlation, indicating valid regression results. From the table above, both Model 1 and Model 2 exhibit VIF and DW values that meet these standards, confirming the validity of the regression results.

Creating diagrams depicting the impact of factors on women's public safety perception for both models, as shown in Figure 2. Through analyzing the regression equation results (Table 2) and the relationships depicted in Figure 2, this study explores the relationships between each variable and women's public safety perception, validating the hypotheses proposed earlier in the text.

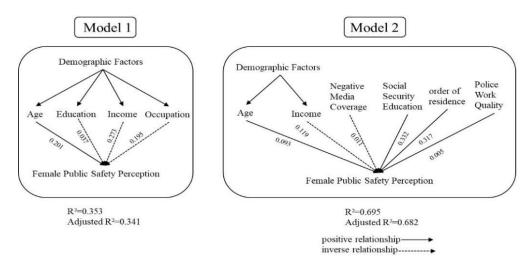


Figure 2: Diagram of factors influencing women's public safety perception

4.2 Hypothesis Verification

Based on collected questionnaire samples, two regression models were generated to analyze data. Model 1 investigates the directional impact of demographic variables on women's perception of public security. Model 2, excluding demographic variables, examines the relationships between social security education, societal security assessment, negative media coverage, residential area orderliness, police service quality, and women's perception of public security.

Firstly, age shows a positive relationship with women's public safety perception. Secondly, higher levels of education are associated with a negative impact on women's public safety perception. Thirdly, increased income levels correlate positively with women's public safety perception. Additionally, occupation shows a significant relationship with women's public safety perception. However, marital status does not significantly correlate with women's public safety perception.

There is no significant relationship between social public security education and women's public safety perception, failing to validate Hypothesis 2.

Negative media coverage has a significant negative impact on women's public safety perception, confirming Hypothesis 3.

Social security evaluation shows a significant positive correlation with women's public safety perception, confirming Hypothesis 4.

Residential area order shows a significant positive correlation with women's public safety perception, confirming Hypothesis 5.

Police work quality exhibits a significant positive correlation with women's public safety perception, confirming Hypothesis 6.

5. Conclusions

Through a review of relevant literature, the study defines female public safety perception as the subjective feelings and cognitions of female groups regarding social security and order in specific spatial and temporal contexts, as well as their psychological reactions following unlawful infringements. In exploring the factors influencing the public safety perception of female residents, data were primarily collected through questionnaire surveys. Two models were constructed using multivariate linear regression to explore these influencing factors. The main findings of the study are as follows:

Firstly, differences in age, educational attainment, income level, and occupation among women lead to variations in their sense of public safety. As women age, their psychological resilience and ability to cope with sudden social security incidents increase, along with their capacity for information discernment, thereby enhancing their public safety perception. Conversely, higher levels of education among women strengthen their awareness of social security risks and self-protection measures, albeit potentially reducing their overall sense of safety. Variances in income levels also influence women's public safety perception; higher income generally correlates with higher social status and reduced perceived risk, thus increasing their sense of security. Different occupational habits and environments formed by women in various positions also contribute to differences in their perception of public safety. However, marital status does not significantly impact women's sense of public safety.

Secondly, there is a negative correlation between media coverage of negative news and women's sense of public safety. Media, as a channel for information dissemination, plays a crucial role in how women perceive social security information. Reports in the media about social security incidents in public places, residential areas, workplaces, or schools may inadvertently disclose victims' privacy or amplify the perceived crime risks. This can create a tense and insecure social atmosphere. According to the "risk society theory," the prevalence of insecurity factors in social structures contributes to heightened fear among people. Moreover, frequent and in-depth media coverage of negative social security incidents reinforces negative psychological effects among women, solidifying their perception of risks and consequently reducing their sense of security.

Thirdly, there is a positive correlation between public security conditions, residential area order, police work quality, and women's sense of public safety. When public security conditions are favorable and law enforcement effectively combats criminal activities, it contributes to a satisfactory and harmonious security environment. Women living in such areas experience fewer security concerns, thereby enhancing their sense of public safety. Enhanced community management, improved security facilities, and the establishment of harmonious neighborhood relationships are crucial aspects of improving residential area order. A well-maintained residential order reduces women's fears regarding social security incidents. Additionally, well-equipped police resources, increased police visibility, and effective police-community communication build trust in law enforcement and enhance confidence in police departments. This increased trust reinforces women's safety awareness and consequently boosts their sense of security to some extent.

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