

Article

Risk Perception and Sense of Public Health Safety: The Mediating Role of Emotional Perception

Ruyi Shi ^{1,2}, Qiqi Liu ¹ and Guangzhu Wu ^{3,*}

¹ School of Public Policy & Management, China University of Mining and Technology, Xuzhou 221116, China; shiruyi1988@163.com (R.S.); liuqiqi1101@126.com (Q.L.)

² School of Safety Engineering, China University of Mining and Technology, Xuzhou 221116, China

³ Tianjin Municipal Big Data Administration Center, Tianjin 300221, China

* Correspondence: wuguangzhu@tj.gov.cn

Abstract: The COVID-19 pandemic has not only caused significant economic, social, and cultural impacts, but it has also significantly influenced the public's sense of psychological health and safety. Therefore, this study aimed to explain the theoretical logic of risk perception and the sense of public health safety. A conceptual framework of risk perception consisting of four dimensions—emotional perception, information perception, trust perception, and efficacy perception—was constructed. Additionally, the impact of risk perception on the sense of public health safety was empirically explored. By conducting an analysis of a survey of 292 residents in China, we found that risk perception had different impacts on residents' sense of public health safety. Emotional perception and information perception had significantly negative effects on the sense of public health safety, while the effects of trust perception and efficacy perception were significantly positive. Notably, emotional perception played a partial mediating role in the impact of information perception, trust perception, and efficacy perception on sense of public health safety, respectively. The findings of this study showed that emotional perception is a critical mechanism for improving residents' sense of public health safety. Some certain guidance measures are provided to reduce public anxiety and fear during pandemics.

Keywords: risk perception; emotional perception; sense of public health safety; COVID-19 pandemic; mediating effect



Citation: Shi, R.; Liu, Q.; Wu, G. Risk Perception and Sense of Public Health Safety: The Mediating Role of Emotional Perception. *Sustainability* **2023**, *15*, 15632. <https://doi.org/10.3390/su152115632>

Academic Editor: Daniel Diaz

Received: 7 September 2023

Revised: 30 October 2023

Accepted: 2 November 2023

Published: 5 November 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The recent COVID-19 pandemic broke out on an international scale, causing a series of social problems, seriously affecting the physical and mental health of the public, and greatly reducing residents' sense of public health safety. The pandemic created a sense of powerlessness in individuals, resulting in many negative psychological reactions such as fear, anger, frustration, helplessness, loneliness, and intense uncertainty [1]. Urban resilience refers to the comprehensive ability of a city to effectively respond to and recover from various risks such as public health events and natural disasters. Faced with the rampant COVID-19 pandemic, people are gradually recognizing that the improvement of urban resilience levels is crucial to coping with various exogenous shocks [2]. However, increasing the sense of public health safety is an important task in improving the resilience of urban public safety. Actually, the sense of urban public health safety is the intuitive perception of disease transmission, pandemic prevention and control, and the public health status among urban residents, which can directly reflect the current situation of urban public health safety and evaluate the effectiveness of urban public health governance. Risk perception focuses on individuals' subjective assessment of hazardous factors in the external environment that may pose a threat to their health and well-being [3,4]. Regarding the judgment and cognition of objective risks, the risk perception of the pandemic is an

important link between unsafe situations and the sense of public health safety. Actually, both risk perception and sense of safety are subjective cognitive constructs that are difficult to record and measure. Their relations are relatively complex and cannot readily be explained. Is there a certain relationship between risk perception and the sense of public health safety? How can we describe and explain their relation? What impact does risk perception have on the sense of public health safety? These questions need to be explored in depth, seeking to provide some reference for strengthening the resilience of urban public safety.

1.1. Literature Review

Risk perception is a subjective psychological structure, which is affected by some factors, such as individual differences, social environments, psychological factors, and cultural aspects [5,6]. Some scholars have focused on the issues of the risk perception of the COVID-19 pandemic and individuals' behaviors from different perspectives. Jeong and Kim explored the relationship between risk perception and preventive behaviors regarding COVID-19, using a moderated mediation model of information behaviors and trust in the government [7]. Gan and Fu assessed the mediating roles of positive and negative emotions on the relationship between COVID-19 risk perception and coping behaviors [8]. Abdelrahman investigated the impact of personality traits, risk perception, and personal hygiene practices on social distancing to avoid COVID-19 infection [9]. Kim et al. studied the roles of media use and emotions in risk perception and preventive behaviors related to COVID-19 in South Korea [10]. Savadori and Lauriola tested a comprehensive structural equation model of risk perception to explain the adoption of protective behaviors during the rise of COVID-19 [11].

A sense of safety refers to individuals' emotional experience resulting from the extent to which the external environment and safety conditions meet a person's safety needs [12]. It is a psychological phenomenon involving subjective perceptions and can be defined as a type of psychological demand for safety and certainty [13]. Each discipline views the sense of safety from different perspectives, with several associated common factors: experience, trust, situations, and perceptions, etc. [14,15]. Some studies have tried to explain the sense of safety or safety control from the perspective of risk perception in the context of COVID-19. Geng investigated the risk perception of COVID-19, sleep quality, and time change of leisure activity and their correlations with posttraumatic stress disorder in healthcare workers [16]. Han et al. found that the risk perception of COVID-19 was associated with emotional factors and ultimately mental health [17]. Ozer et al. examined the effect of the perceived risk of COVID-19 on anxiety about death, satisfaction with life, and psychological well-being [18]. Yildirim and Guler analyzed the mediating effect of positivity on the association between perceived risk of COVID-19, anxiety about death, and happiness [19]. Peluso and Pichierri investigated the influence of socio-demographics on individuals' sense of control and the ability to avoid the uncertainty caused by the COVID-19 crisis [20]. Huang et al. examined the impact of COVID-19 risk perception on the sense of control, testing the hypotheses that this effect would be mediated by anxiety about death and moderated by Confucian coping [21].

More scholars have focused on the interactions between perceived risk and individuals' fears from different perspectives. Perceived risk is a cognitive judgment and fear involves visceral feelings of anxiety or dread [22]. Shippee examined how victimization interacted with fear of crime and perceived risk to influence a sense of personal control [23]. Chon and Wilson introduced both country-level variables and individual-level variables and tested their relationships with an individual's perceived risk of burglary and fear of crime [24]. Pickett found that perceived risk and fear were empirically distinct, and that perceived risk was positively related to fear on both general and situational levels [22]. Elmas explored the impact of individual-level predictors and perceived risk of terrorism on the fear of terrorism [25]. Yuan et al. examined the associations between perceived risk, perceived

severity, and fear of contracting COVID-19 [26]. Xie et al. revealed that risk messages can be used to accurately to predict tourists' perceived safety, travel fear, and travel intentions [27].

As mentioned above, most of the existing literature focuses on risk perception, individuals' anxiety and fear, and individuals' behaviors from empirical perspectives. More scholars have stressed the sense of safety in terms of internal individual characteristics rather than external environmental responses. We can find that research on the sense of safety is insufficient and not systemic. Furthermore, the theoretical logic between risk perception and sense of safety is ambiguous.

1.2. Contributions of This Study

Based on the existing literature, this study is significant in that it explores the relationship between residents' risk perception and the sense of public health safety. In this study, a conceptual framework of risk perception was constructed, and research hypotheses and test models were established to explore the specific impacts of the four dimensions of risk perception (emotional perception, information perception, trust perception, and efficacy perception) on the sense of public health safety. We then analyzed the mediating effect of emotional perception on the relationship between the other three dimensions of risk perception and the sense of public health safety. Countermeasures and suggestions were put forward to improve residents' sense of public health safety and enhance the capability of residents to respond to major public health emergencies.

The remainder of this paper is structured as follows. Section 2 introduces the theoretical basis and research hypothesis. Section 3 describes our methods, including samples and measurements. Section 4 presents the empirical results and further discussions. Section 5 presents the conclusions, implications, and limitations of the study.

2. Theoretical Basis and Research Hypothesis

2.1. Theoretical Basis

The Stimulus–Organism–Response (SOR) model demonstrates that external stimuli elicit cognitive or emotional responses, which subsequently influence individuals' behavior and psychological reactions, including both their action and responses [28]. Based on the SOR theory, this study constructed a theoretical framework for the relationship between risk perception and the sense of public health safety using three layers: a state layer, cognition and judgment layer, and sense layer. There is a relatively complex cognition and judgment process between objective risk and subjective sense of safety. An unsafe state or objective risk, i.e., the objective state that causes a change in safety sense in a certain area, is the condition of cognition and judgment. As a tool for the public to cognize and judge risks, risk perception has an internal and external impact on the sense of public health safety.

Research on risk perception follows two main paradigms. One is the psychometric paradigm represented by Slovic [3], suggesting that risk perception underscores the mental strategies employed by individuals to make sense of uncertainties experienced in a risky situation [29]. Based on the professional field of psychology, quantitative research methods are used to measure and study risk perception at a deeper level. This paradigm focuses on the measurement of individual subjective characteristics and feelings. The second paradigm is the cultural theory paradigm represented by Douglas [4], which is different from the psychometric paradigm. This paradigm studies risk perception from a sociological perspective, focusing on the impact of social environment, cultural factors, ideology, and group differences on risk perception. Based on existing research paradigms, this study constructed a classification framework of risk perception from four dimensions: emotional perception, information perception, trust perception, and efficacy perception (as shown in Figure 1).

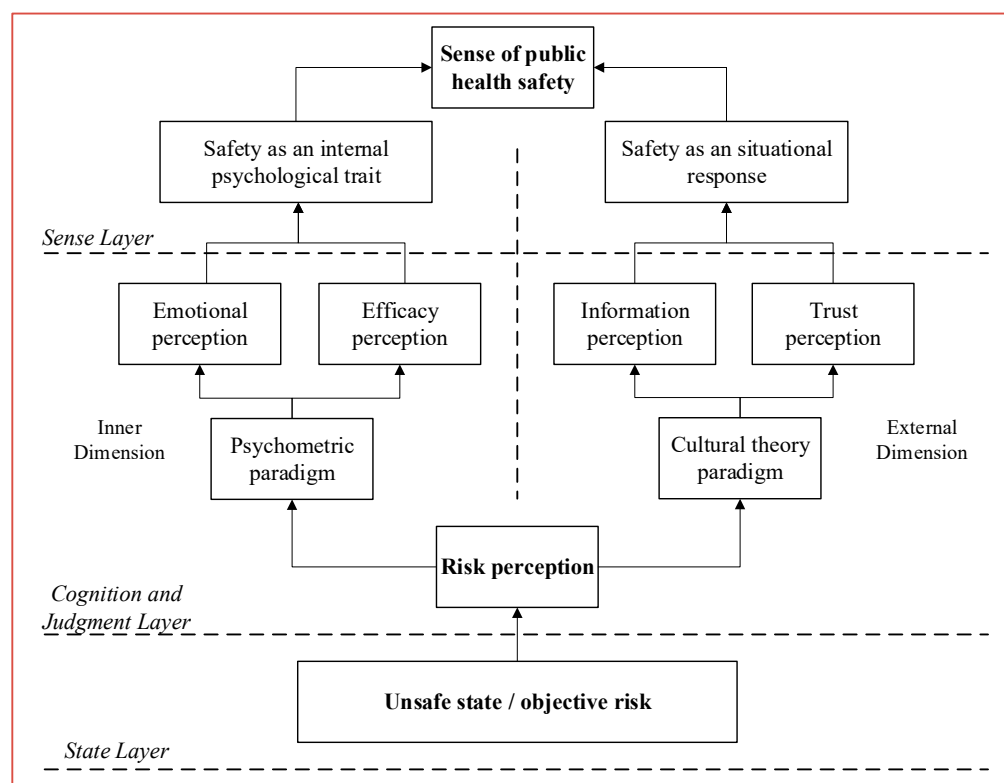


Figure 1. Research model of the study.

2.2. Research Hypothesis

The psychometric paradigm of risk perception focuses on the measurement of internal individual characteristics, which belong to the internal level of cognition and judgment [3]. The cultural theory paradigm focuses on investigating external environmental factors, which belong to the external level of cognition and judgment [4]. Emotional perception and efficacy perception focus on the subjective, irrational, and intuitive aspects of individual psychology, which are an important aspect of research in the psychometric paradigm. However, information perception and trust perception focus on external environmental stimuli, which are crucial aspects of research in the cultural theory paradigm. The sense of public health safety is divided into two categories: one as an internal psychological trait and the other as an external situational response. Risk perception at the cognition and judgment levels affects the sense of public health safety from the perspectives of both internal individual psychology and external environmental stimulation.

Emotional perception refers to the intensity of anxiety, fear, and other emotions that individuals experience when they are exposed to external risks. Dangerous and life-threatening situations can trigger negative emotions such as anger, regret, guilt, fear, disappointment, and shame [30]. Individuals who experience fear tend to conduct a pessimistic risk assessment and attempt to avoid risks [31]. Anxiety over social safety has the strongest influence on negative emotions [10]. When a risk event threatens their own interests, people tend to feel afraid and scared, regardless of the actual level of danger. Individuals who are hypervigilant to threats might overestimate the possibility of a large negative outcome, even if the likelihood of such an outcome is low [32].

Hypotheses (H1): *There is a negative correlation between residents' emotional perception and sense of public health safety.*

Information perception refers to individuals' cognitive and judgmental processes in evaluating the degree of risk posed by emergencies through the acquisition, interpretation, and expression of external environmental information. People's sense of safety largely

depends on the information they receive. An over-abundance of information could endanger individuals' sense of safety by increasing their rumination about pandemics [33]. The overwhelming amount of information and extensive media coverage of the pandemic might have contributed to overreaction, unwarranted public fear, and an overly pessimistic feeling in perceiving current risk [34].

Hypotheses (H2): *There is a negative correlation between residents' information perception and sense of public health safety.*

Trust perception refers to individuals' psychological experience of feeling safe and reliable, as well as trust toward the government, public organizations, and other relevant entities during risk events. Studies have shown that public trust in government action is critical for helping people to cope with perceived risks and have confidence in following governments' advice [7]. Furthermore, trust in the government moderates the relationship between motivational factors and individuals' intentions [35]. In public health research, it has been demonstrated that improving the sense of health safety is inherently conducive to an improvement in the levels of trust in central and local government agencies [36].

Hypotheses (H3): *There is a positive correlation between residents' trust perception and sense of public health safety.*

The self-efficacy theory was first proposed by Bandura, who believed that self-efficacy is the result of individuals' evaluation of their own competence [37]. Efficacy perception refers to individuals' psychological confidence in their ability to solve and cope with external risks. Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave. Low self-efficacy can increase problems such as emotional and social problems, which involves in mental health [38]. Individuals with a higher self-efficacy perception are more active when facing problems. For instance, airline pilots' self-efficacy significantly influences their human error in aviation [39]. In addition, employees' self-efficacy regarding safety can buffer the harmful effects of job strain on safety behavior [40].

Hypotheses (H4): *There is a positive correlation between residents' efficacy perception and sense of public health safety.*

Cognitive psychology suggests that emotions are generated by specific evaluation models, and individuals with higher levels of anxiety are more likely to pay attention to threatening stimuli, thus affecting their subjective evaluation and perception of associated problems. Jeon measured the subjective judgment of driving confidence, risk perception, and safety level following affect induction and found that induced anger had clear negative effects on the level of subjective safety and led to a worse driving performance compared to feeling neutral and fear [41].

The sense of public health safety is generated via a cognitive evaluation of individuals based on objective factors and security needs, usually through the following process "objective needs–cognition–sense of safety". In the cognition process model, the perceptual system performs feature recognition and coding processing on the external input information, and then sends the encoded information symbols into the memory system. Therefore, this process of cognition and judgment leads to differences in the sense of public health safety among different individuals. As information perception and trust perception are external environmental stimuli, emotional perception becomes individuals' inner judgment of external objective risks affected by social, cultural, and environmental factors. Emotional perception plays an important mediating role between external objective risk and the sense of public health safety during the pandemic. Furthermore, efficacy perception measures individuals' psychological confidence, which is affected greatly by individuals' emotional perception.

Hypotheses (H5a): Emotional perception plays a mediating role between information perception and the sense of public health safety.

Hypotheses (H5b): Emotional perception plays a mediating role between trust perception and the sense of public health safety.

Hypotheses (H5c): Emotional perception plays a mediating role between efficacy perception and the sense of public health safety.

All the hypotheses from this study are shown in Figure 2.

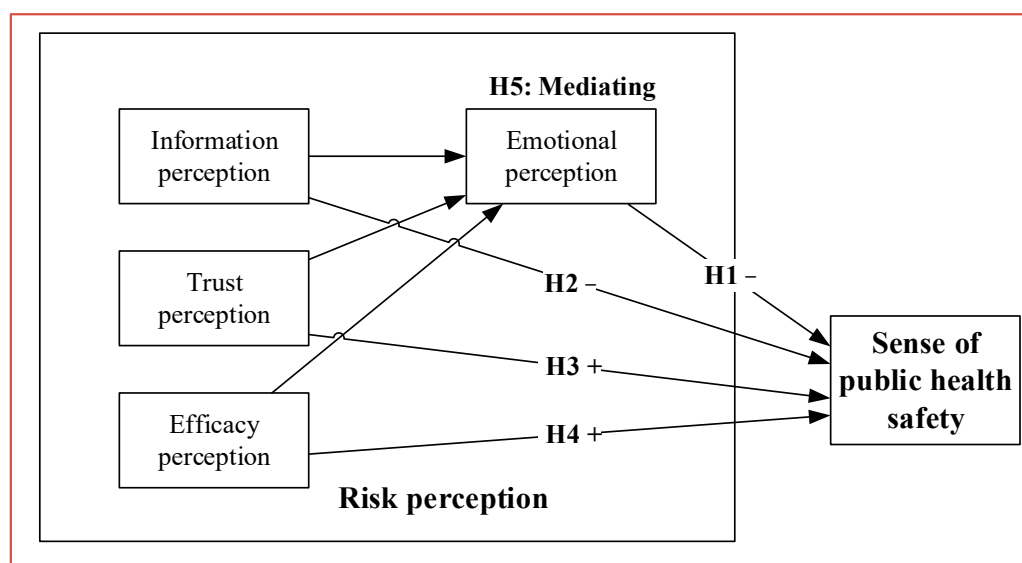


Figure 2. Research hypotheses from this study.

3. Methods

3.1. Samples and Data Collection

The survey method was used as a data collection tool to determine the participants' risk perception and the sense of public health safety in China. Samples of residents in China were used in this study. According to the urban distribution in various regions of China, twenty cities were selected to distribute fifteen questionnaires per city (three hundred in total). The sampling cities were as follows: two cities in northeastern China (Harbin and Dalian), five cities in eastern China (Shanghai, Nanjing, Hangzhou, Hefei, and Fuzhou), two cities in northern China (Beijing and Taiyuan), three cities in central China (Wuhan, Zhengzhou, and Changsha), three cities in southern China (Guangzhou, Shenzhen, and Nanning), three cities in southwestern China (Chengdu, Chongqing, and Kunming), and two cities in northwestern China (Xi'an and Lanzhou). Through random sampling, the researchers promoted and disseminated the web link to the online questionnaire on social media platforms.

A total of 292 questionnaires were distributed to different groups in the sampling cities, and 290 questionnaires were collected. After the screening and acceptance of the questionnaires, 48 invalid questionnaires were eliminated based on response time and index differences. A total of 242 valid questionnaires were obtained, with a valid questionnaire recovery rate of 82.88%. The demographic information of the respondents is shown in Table 1. In terms of gender, 48.35% of the respondents were male and 51.65% were female. In terms of age, 51.24% of the respondents were aged 18–29 and 40.5% were aged 30–45. Furthermore, 66.36% were undergraduates and junior college students. The demographic characteristics of the survey respondents were consistent with the distribution of the target

population. The frequency distribution of the sample also met the requirements of the sample survey.

The current study received ethical approval, and all the participants included in the study willingly volunteered to participate. The researchers declare no conflicts of interest.

Table 1. Demographic characteristics of the survey respondents.

| Statistical Items | | Number of People | Ratio |
|--|------------------------------------|------------------|--------|
| Gender | Male | 117 | 48.35% |
| | Female | 125 | 51.65% |
| Age | Under 18 years old | 10 | 4.13% |
| | 18–29 years old | 124 | 51.24% |
| | 30–45 years old | 98 | 40.50% |
| | Over 45 years old | 10 | 23.81% |
| Academic qualifications | High School and below | 16 | 6.61% |
| | Undergraduate and Associate degree | 209 | 86.36% |
| | Master’s degree and above | 17 | 7.02% |
| Career | Student | 50 | 20.66% |
| | Company staff | 129 | 53.31% |
| | Civil servant and career staff | 38 | 15.70% |
| | Freelancer | 21 | 8.68% |
| | Other | 4 | 1.65% |
| Time since the latest confirmed case of COVID-19 in the region | Within 1 week | 69 | 28.51% |
| | Within 1 month | 79 | 32.64% |
| | Within 1 to 3 months | 51 | 21.07% |
| | Within 3 to 6 months | 24 | 9.92% |
| | 6 months and above | 19 | 7.85% |

3.2. Measurements

There were five variables in the questionnaire used in this study: sense of public health safety (SS), emotional perception (EMP), information perception (IP), trust perception (TP), and efficacy perception (EFP). The questionnaire form contained three sections. The first section included five survey questions about the demographic information of the participants, the second section included five survey questions about the sense of public health safety (from SS1 to SS5 in Table 2), and the third section included thirteen survey questions about risk perception. The third section consisted of four sub-dimensions, including emotional perception (three survey questions from EMP1 to EMP3), information perception (four survey questions from IP1 to IP4), trust perception (three survey questions from TP1 to TP3), and efficacy perception (three survey questions from EFP1 to EFP3). The questions used were measured on a 5-point Likert scale, where 1 meant “strongly disagree” and 5 meant “strongly agree”.

Cronbach’s α coefficient was used to determine the reliability of the scale. In exploratory research, reliability is acceptable as long as the Cronbach’s α coefficient exceeds 0.7. Through a specific analysis of the questionnaire data, it was found that the Cronbach’s α coefficients of the above variables were all greater than 0.7, indicating that the scale passed the reliability test. All the variables and measurement items are displayed in Table 2.

Table 2. Variables and measurement items.

| Type | Variable Name | Measurement Items | Cronbach's α |
|----------------------|--|---|---------------------|
| Dependent variable | Sense of public health safety (SS) [42,43] | SS1: I'm worried about infectious diseases happening around me. SS2: I'm worried about the repeated spread of the pandemic. SS3: I am worried about the harm of chronic diseases to my health. SS4: When the pandemic occurs, I am worried that it will not be effectively controlled in a timely manner. SS5: I am worried that the public health situation in my city is getting worse and worse. | 0.845 |
| | Emotional perception (EMP) [44] | EMP1: I think the epidemic and spread of COVID-19 is very difficult to control. EMP2: I am generally scared about COVID-19. EMP3: I have a sense of uncertainty about the direction and destructive power of COVID-19. | 0.835 |
| Independent variable | Information perception (IP) [44] | IP1: I think the official public information on COVID-19 is insufficient. IP2: I think the official public information on COVID-19 is not released in time. IP3: I think the relevant information on COVID-19 is rather cluttered. IP4: I think my current information reserve cannot meet the judgment of COVID-19. | 0.896 |
| | Trust perception (TP) [44] | TP1: I think the scientists know enough about COVID-19. TP2: I think doctors and nurses have sufficient expertise to cure COVID-19. TP3: I trust the government's prevention and control measures for COVID-19. | 0.811 |
| | Efficacy perception (EFP) [45] | EFP1: I am confident that I can effectively deal with the negative impact of COVID-19. EFP2: I can calmly face the difficulties caused by COVID-19 because I trust my ability to deal with problems EFP3: When faced with challenges posed by COVID-19, I can usually find several solutions. | 0.756 |

The sense of public health safety is a more complex concept, and many scholars have accurately measured it using a variety of methods. Some scholars have directly measured the sense of public health safety using a single indicator that asks residents how concerned they are about public health safety. In this study, the sense of public health safety was measured by the scale from an annual survey program across mainland China—Public Safety National Survey of Chinese Urban Residents—which was initiated and has been administered by China University of Mining and Technology since 2017 [42]. Actually, the scale of sense of public health safety was first proposed by Wang et al. in the Blue Book of Public Safety: Report of Chinese Urban Safety Sense (2018) [43]. The Cronbach's α of this dimensional scale was measured as 0.845.

This study attempted to measure the risk perception of residents in China during the COVID-19 pandemic. Risk perception was interpreted as four dimensions: emotional perception, information perception, trust perception, and efficacy perception. The scales were well-designed for this measurement. Dryhurst et al. presented the first assessment of public risk perception of COVID-19 around the world using national samples in ten countries across Europe, America, and Asia [44]. The scales of emotional perception, trust perception, and information perception from Dryhurst were applicable to this study as

the same research background and similar psychological predictors. Compared to the measurement of worry, affect, severity, and likelihood of infection from Dryhurst, this study measured emotional perception using three dimensions: worry, controllability, and the unknown, with a Cronbach's α of 0.835. Trust perception was measured using three dimensions: trust in scientists, trust in healthcare workers, and trust in the government based on the corresponding scale from Dryhurst, with a Cronbach's α of 0.811. Based on the psychological predictors from Dryhurst, personal knowledge, social knowledge, direct experience, and social amplification, this study measured information perception in terms of information adequacy, information timeliness, information readability, and information judgment, with the Cronbach's α of 0.896. As a classic scale for measuring self-efficacy, the General Self-Efficacy Scale (GSES) by Luszczynska was applied to measure efficacy perception [45]. It was measured using three dimensions: self-confidence, calmness, and solution confidence. The Cronbach's α of this dimension scale was 0.756.

The statistics for the results of the questionnaires are shown in Figure 3. Based on the questionnaire data, the AMOS 24.0 software was used to perform a confirmatory factor analysis and measure the validation of the questionnaire. After the correlation analysis, the SPSS 21.0 software was applied to perform a regression analysis on the research model.

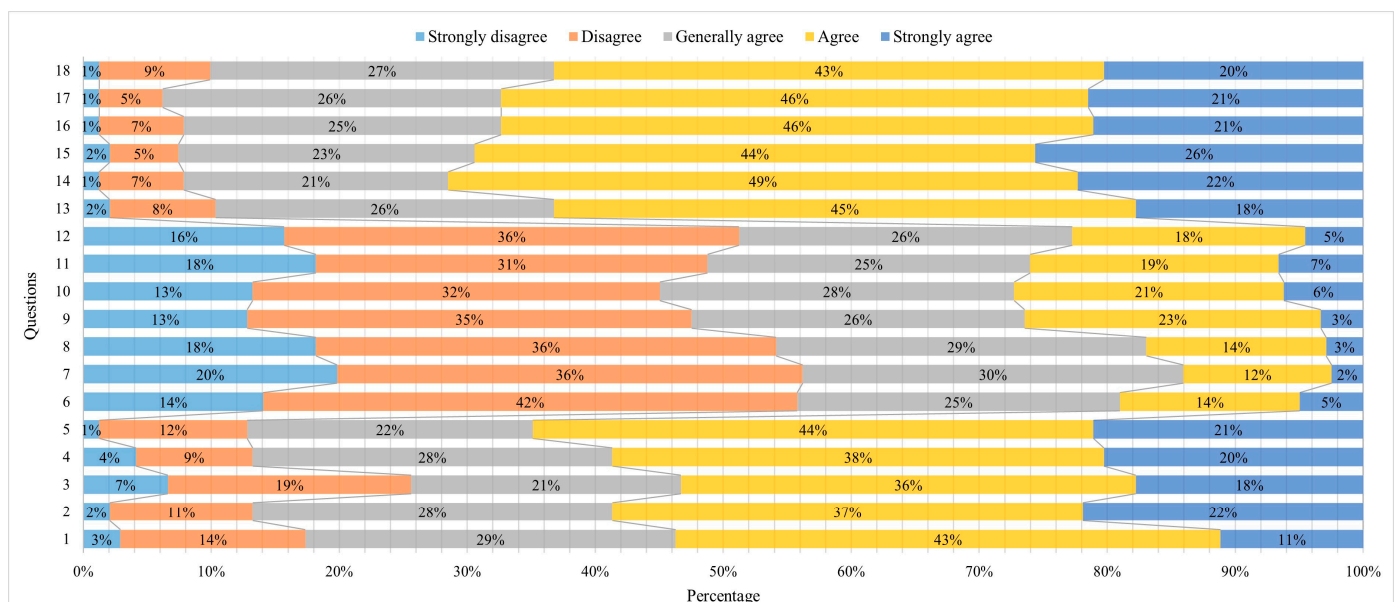


Figure 3. Statistics on results of questionnaires.

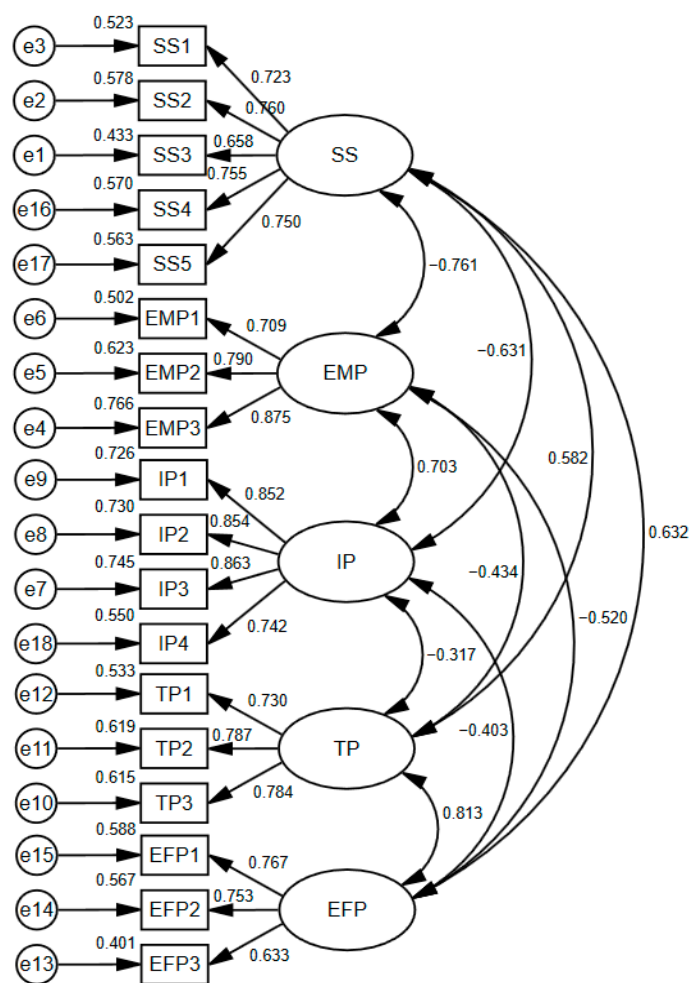
4. Results and Discussion

4.1. Validation Testing

In order to measure the validity of the questionnaire, this paper used the AMOS 24.0 software to perform a confirmatory factor analysis and measured the combined reliability (CR) and average variance extraction (AVE) of the questionnaire. The results are shown in Table 3. The factor loads of each latent variable corresponding to each topic—sense of public health safety, emotional perception, information perception, trust perception, and efficacy perception—were greater than 0.5, which indicates that each latent variable corresponded to a certain representativeness. In addition, the AVE of each latent variable was greater than 0.5, and the CR was greater than 0.7; therefore, the variables had a high aggregate validity. A standardized path diagram is shown in Figure 4.

Table 3. Confirmatory factor analysis results.

| Factor and Question Items | | | Standardized Load | AVE | CR |
|---------------------------|---|-----|-------------------|-------|-------|
| SS5 | ← | SS | 0.750 | 0.533 | 0.851 |
| SS4 | ← | SS | 0.755 | | |
| SS3 | ← | SS | 0.658 | | |
| SS2 | ← | SS | 0.760 | | |
| SS1 | ← | SS | 0.723 | | |
| EMP3 | ← | EMP | 0.875 | 0.631 | 0.836 |
| EMP2 | ← | EMP | 0.790 | | |
| EMP1 | ← | EMP | 0.709 | | |
| IP4 | ← | IP | 0.742 | 0.688 | 0.898 |
| IP3 | ← | IP | 0.863 | | |
| IP2 | ← | IP | 0.854 | | |
| IP1 | ← | IP | 0.852 | | |
| TP3 | ← | TP | 0.784 | 0.589 | 0.811 |
| TP2 | ← | TP | 0.787 | | |
| TP1 | ← | TP | 0.730 | | |
| EFP3 | ← | EFP | 0.633 | 0.519 | 0.763 |
| EFP2 | ← | EFP | 0.753 | | |
| EFP1 | ← | EFP | 0.767 | | |

**Figure 4.** The standardized path coefficient of the confirmatory factor.

This study also examined the discriminant validity of the questionnaire. The five-factor model used in this study comprised five dimensions: sense of public health safety, emotional perception, information perception, trust perception, and efficacy perception. The re-

sults are presented in Table 4. The fit of the five-factor model ($\chi^2/df = 1.666$, RMSEA = 0.053, CFI = 0.964, IFI = 0.964, and TLI = 0.956) indicated that the five-factor model fit accurately and was significantly better than the four-factor, three-factor, two-factor, and one-factor models. Thus, this five-factor model better represented the factor structure, therefore indicating that the data had a good discriminant validity.

Table 4. Comparison of measurement models.

| Models | χ^2 | df | χ^2/df | RMSEA | CFI | IFI | TLI |
|----------------|----------|--------|-------------|-------|-------|-------|-------|
| Five-factor | 208.20 | 125.00 | 1.666 | 0.053 | 0.964 | 0.964 | 0.956 |
| Four-factor | 303.30 | 129.00 | 2.352 | 0.075 | 0.924 | 0.925 | 0.910 |
| Three-factor | 539.40 | 132.00 | 4.086 | 0.113 | 0.823 | 0.824 | 0.794 |
| Two-factor | 572.40 | 134.00 | 4.272 | 0.117 | 0.809 | 0.811 | 0.782 |
| One-factor | 870.00 | 135.00 | 6.444 | 0.151 | 0.580 | 0.682 | 0.637 |
| Standard value | | | <3 | <0.08 | >0.9 | >0.9 | >0.9 |

Note: Five-factor model: SS, EMP, IP, TP, and EFP; Four-factor model: SS + EMP, IP, TP, and EFP; Three-factor model: SS + EMP + IP, TP, and EFP; Two-factor model: SS + EMP + IP + TP, and EFP; and One-factor model: SS + EMP + IP + TP + EFP. RMSEA (Root Mean Square Error of Approximation), CFI (Comparative Fit Index), IFI (Incremental Fit Index), TLI (Tucker–Lewis Index).

4.2. Hypothesis Testing

Before conducting a further regression analysis, the correlations between the sense of public health safety and emotional perception, information perception, trust perception, and efficacy perception were analyzed (as shown in Table 5). Both emotional perception and information perception had a significantly negative correlation with the sense of public health safety. However, both trust perception and efficacy perception had a significantly positive correlation with the sense of public health safety. Overall, the results of the correlation analysis initially supported hypotheses H1, H2, H3, and H4.

Table 5. Analysis of correlation.

| Variable | SS | EMP | IP | TP | EFP |
|----------|-----------|-----------|-----------|----------|-----|
| SS | 1 | | | | |
| EMP | −0.639 ** | 1 | | | |
| IP | −0.563 ** | 0.612 ** | 1 | | |
| TP | 0.480 ** | −0.363 ** | −0.285 ** | 1 | |
| EFP | 0.517 ** | −0.412 ** | −0.339 ** | 0.640 ** | 1 |

Note: ** $p < 0.01$.

After the correlation analysis, the SPSS 21.0 software was used to perform a linear regression analysis on the research model, with emotional perception, information perception, trust perception, and efficacy perception as independent variables and the sense of public health safety as the dependent variable. The control variables in the regression analysis included gender, age, education, and time since the latest confirmed case of COVID-19 in the region. The dependent variable and control variables were entered into Model 1, and the dependent variable, independent variables, and control variables were substituted into Model 2. The results are shown in Table 6.

The specific analysis is shown as follows. The regression coefficient value of emotional perception was -0.355 ($p = 0.000$), indicating that emotional perception had a significantly negative influence on the sense of public health safety, so H1 was tested. The regression coefficient value of information perception was -0.234 ($p = 0.000$), indicating that information perception had a significantly negative influence on the sense of public health safety; therefore, H2 was tested. The regression coefficient of trust perception was 0.178 ($p = 0.005$), indicating that trust perception had a significantly positive influence on the sense of public health safety; therefore, H3 was tested. The regression coefficient of efficacy perception was 0.185 ($p = 0.002$), indicating that efficacy perception had a significantly positive influence on the sense of public health safety; therefore, H4 was tested.

Table 6. Analysis of regression.

| Predictive Variables | Model 1 | | Model 2 | |
|--|---------|--------|-----------|--------|
| | β | T | β | T |
| Gender | 0.003 | 0.042 | 0.029 | 0.650 |
| Age | −0.035 | −0.524 | −0.050 | −1.093 |
| Academic qualifications | −0.005 | −0.079 | −0.033 | −0.737 |
| Time since the latest confirmed case of COVID-19 in the region | 0.031 | 0.469 | 0.061 | 1.344 |
| EMP | | | −0.355 ** | −6.041 |
| IP | | | −0.234 ** | −4.127 |
| TP | | | 0.178 ** | 3.010 |
| EFP | | | 0.185 ** | 3.088 |
| F | 0.114 | | 34.564 | |
| R ² | 0.002 | | 0.543 | |

Note: ** $p < 0.01$. β : the standardized regression coefficient. T: t-value in *t*-test.

To test hypotheses H5a, H5b, and H5c, the mediating effect of emotional perception was tested in this paper using the Process plug-in for SPSS. The model was set in the plug-in. Gender, age, education, and time since the latest confirmed case were used as control variables; the sense of public health safety was used as the dependent variable; and emotion perception was used as the mediating variable. Information perception, trust perception, and efficacy perception were taken as independent variables. Meanwhile, the mediating effect was analyzed using the Bootstrap method with 5000 random samples at a 95% confidence level.

As shown in Table 7, emotional perception had significant mediating effects on the relationship between the other three perceptions (information, trust, and efficacy) and the sense of public health safety. The mediating effect of emotional perception was significant (the confidence intervals of the three paths do not include 0). The specific paths were as follows: (1) Information perception → Emotional perception → Sense of public health safety (the effect value was −0.240), and the proportion of the mediating effect was 50.79%; (2) Trust perception → Emotional perception → Sense of public health safety (the effect value was −0.206), and the proportion of the mediating effect was 39.66%; and (3) Efficacy perception → Emotional perception → Sense of public health safety (the effect value was −0.234), and the proportion of the mediating effect was 40.37%. Therefore, H5a, H5b, and H5c can be tested.

Table 7. Bootstrap test for the mediating effect.

| Paths | Effect Type | Effect | BootSE | BootLLCI | BootULCI | Mediating Effect as a Percentage |
|----------------|------------------|--------|--------|----------|----------|----------------------------------|
| IP → EMP → SS | Mediating effect | −0.240 | 0.055 | −0.352 | −0.143 | 50.79% |
| | Direct effect | −0.233 | 0.080 | −0.393 | −0.077 | |
| | Total effect | −0.473 | 0.063 | −0.594 | −0.346 | |
| TP → EMP → SS | Mediating effect | 0.206 | 0.046 | 0.118 | 0.299 | 39.66% |
| | Direct effect | 0.314 | 0.070 | −0.609 | −0.336 | |
| | Total effect | 0.520 | 0.071 | 0.373 | 0.650 | |
| EFP → EMP → SS | Mediating effect | 0.234 | 0.055 | 0.132 | 0.350 | 40.37% |
| | Direct effect | 0.346 | 0.082 | 0.182 | 0.503 | |
| | Total effect | 0.580 | 0.075 | 0.428 | 0.724 | |

Note: BootSE, BootLLCI, and BootULCI, respectively, refer to the standard error of the indirect effect estimated by the percentile bootstrap method with bias correction, the lower limit, and the upper limit of the 95% confidence interval.

4.3. Discussion

From the empirical results, we found that both emotional perception and information perception had significantly negative influences on the sense of public health safety, and the former had a stronger impact. Anxiety, fear, and uncertainty in emotional perception

directly affected the response and feeling of individuals' sense of public health safety, while there was a complex process of encoding and decoding in information perception. Therefore, compared to information perception, emotional perception had a greater negative impact on residents' sense of public health safety. Moreover, both trust perception and efficacy perception had significantly positive impacts on residents' sense of public health safety, and the regression effect of the latter was stronger. In contrast, efficacy perception is a somewhat subjective initiative that reflects the confidence of individuals during the pandemic. Trust perception can also positively affect the sense of public health safety, but its influence is persistent and diverse. Therefore, efficacy perception had a deeper influence on residents' sense of public health safety compared to trust perception. Further discussions about each hypothesis are as follows.

Emotional perception is a direct reflection of external risks. Therefore, when emotions were low, the public had a pessimistic attitude towards the progression of the COVID-19 pandemic, which can easily lead to unwanted psychological states, such as panic, anxiety, and fear. Additionally, residents' perceptions of and responses to public health safety also tended to be negative. When emotions were positive, the public were able to maintain a good psychological state during the pandemic to cope with unexpected situations, and thus, their risk perception level decreased and their sense of public health safety increased. Therefore, higher levels of emotional perception can lead to greater anxiety and more negative emotions among the public, heighten sensitivity to the spread of the virus, and increase the fear of infection, all of which can reduce the sense of public health safety.

Information perception plays a vital role in residents' sense of public health safety. With the development of information and technology, the current channels for disseminating information are too large and complex. During the pandemic, residents were exposed to a plethora of information through multiple new media platforms. During a public health emergency such as COVID-19, when the official media could not accurately and swiftly report on events, individuals would try to search for relevant information channels, and thus, their information perception increased. Therefore, negative information about the pandemic spread through network, television, and other media could increase residents' information perception, which would lead to heightened worry and fear, ultimately reducing their sense of public health safety.

Trust perception is an important issue that cannot be ignored in the context of COVID-19. When people had higher trust in the government, media, experts, or social organizations, etc., they were more optimistic about the trend of the pandemic, and actively followed the relevant protection suggestions, improving their personal sense of public health safety. Residents with a higher trust perception actively cooperated with control measures from the government and firmly believed that COVID-19 could be overcome and that they would end up being better protected and treated. However, residents with a lower trust perception showed distrust towards the government, resulting in a decrease in the sense of public health safety.

Efficacy perception reflects individuals' confidence in responding to the risk of the pandemic. Individuals with low self-efficacy may have given up preventive behaviors during the COVID-19 pandemic. Unless people believe that they can produce the desired results through their own actions and prevent harmful consequences, there is nothing to motivate them to take action or persist when facing difficulties. When residents had a high efficacy perception during the pandemic, they were optimistic about future developments and had confidence in self-protective behaviors for coping with negative impacts. Meanwhile, they motivated relatives and friends to actively respond to crises, which reduced risk perception and improved the sense of public health safety.

Emotional perception played a partial mediating role in the impact of information perception, trust perception, and efficacy perception on the sense of public health safety. Meanwhile the mediating effect between information perception and the sense of public health safety was the strongest, while that between trust perception and the sense of public health safety was the weakest. One possible explanation may be that information was

an important reference for individuals to judge the severity and controllability of the risk, which could significantly affect individuals' optimism toward the pandemic. Aside from the effect on emotional perception, trust perception may also improve the sense of public health safety via protective measures suggested by trusted sources, for example, vaccination advice from scientists, reminders from medical staff to wear masks, and the government requirement of home quarantine. Therefore, the mediating effect of emotional perception on the relationship between trust perception and the sense of public health safety was weaker. It can be inferred that information perception, trust perception, and efficacy perception elicited individuals' emotional responses and impacted their evaluation of public health safety via the mediating role of emotional perception, thus affecting their sense of public health safety.

5. Conclusions and Implications

5.1. Conclusions

The conclusions are thoroughly supported by the results presented in the study. It was found that the sense of public health safety was influenced by emotional perception, information perception, trust perception, and efficacy perception according to the empirical analysis. It was revealed that emotional perception and information perception had significant negative effects on the sense of public health safety, and the impact of the former was stronger, while trust perception and efficacy perception had significantly negative effects on the sense of public health safety, and the impact of the latter was stronger. Emotional perception had significant mediating effects on the relationship between the other three perceptions (information, trust, and efficacy) and the sense of public health. The hypotheses H1, H2, H3, H4, H5a, H5b, and H5c were tested.

5.2. Implications

The conclusions of this paper have some practical implications. Firstly, it is essential to reduce the impact of negative emotions caused by the pandemic. Social and psychological service resources should be utilized to address mental health issues among front-line medical and nursing personnel, individuals who have been seriously affected by the pandemic, and those with pre-existing mental health problems. The public should be encouraged to maintain positive social links and create an atmosphere of effective response to regulate their emotions related to the pandemic. This can be achieved by maintaining good communication with others, promoting mutual understanding, care, and positive interactions between family members, and improving the ability to emotionally adjust via active social support.

Secondly, it is necessary to carefully and rationally monitor information related to the pandemic. The excessive reception of information about the pandemic can lead to "information overload", which can increase anxiety and negative emotions. Considering the mediating role of emotional perception between information perception and sense of public health, people should not trust information from non-authoritative or unofficial sources to avoid the emotional impacts of biased misinformation. At the same time, it is important to avoid spending too much time looking at pandemic news on a daily basis to maintain a stable emotional state and enhance the sense of public health safety.

Thirdly, there should be a focus on improving the public's scientific literacy and government trust. It is essential to promote and maintain a positive and optimistic attitude among the public to stabilize their emotions and increase their trust perception. Local mental health professional institutions, social and psychological health institutions, university psychological experts, and other psychological resources should be mobilized to offer services such as live broadcasts on mental health, 24 h mental health hotlines, and offline psychological counseling lectures.

Finally, the public should be instructed to take adequate personal protection measures, maintain a healthy lifestyle, and improve their emergency capability to enhance their confidence in responding to the pandemic. The government should also disseminate

information on the research progress of the virus and the role of vaccines to strengthen the public's confidence in coping with the pandemic. The public should be encouraged to take correct protective actions and create a good social risk response atmosphere, so as to reduce their threat awareness of the pandemic and enhance their sense of public health safety.

5.3. Limitations and Future Studies

The main limitations of this study were as follows: (1) affected by the COVID-19 epidemic, we conducted the questionnaire survey online with limited samples (292 samples only), which reduced the rationality of the surveyed population in terms of demographic characteristics. (2) With limited samples, we did not conduct research on how different demographic factors interacted with risk perception to influence the sense of public health safety. In the future research, we will increase the sample size to a greater extent and compare the selected demographic data with nationally representative demographic data. Then, we will further provide deeper insights into how the sense of public health safety varies among different population groups.

Author Contributions: Conceptualization, R.S. and Q.L.; methodology, R.S.; software, Q.L.; validation, R.S., Q.L. and G.W.; formal analysis, G.W.; investigation, G.W.; resources, R.S.; data curation, Q.L.; writing—original draft preparation, R.S. and Q.L.; writing—review and editing, R.S.; supervision, R.S.; project administration, G.W.; funding acquisition, G.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by National Social Science Foundation Major Project of China (23AZD117); National Social Science Foundation of China (22AZD086; 22CZZ048); Social Science Foundation of Jiangsu Province (22ZZC002; 23GLC006); Humanity and Social Science Youth Foundation of Ministry of Education of China (21YJC630115); Jiangsu Postdoctoral Research Support Program (2020ZZ94); China Postdoctoral Science Foundation (2020M681783).

Institutional Review Board Statement: This study was approved by the Ethics Committee at the Department of Administration, China University of Mining and Technology.

Informed Consent Statement: All participants included in the study were willingly volunteered to participate.

Data Availability Statement: The data and models used during the study are available from the corresponding author by request.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Satıcı, B.; Gocet-Tekin, E.; Deniz, M.E.; Satıcı, S.A. Adaptation of the fear of COVID-19 scale: Its association with psychological distress and life satisfaction in Turkey. *Int. J. Ment. Health Addict.* **2021**, *19*, 1980–1988. [\[CrossRef\]](#) [\[PubMed\]](#)
2. Shi, Y.; Zhang, T.; Jiang, Y. Digital Economy, Technological Innovation and Urban Resilience. *Sustainability* **2023**, *15*, 9250. [\[CrossRef\]](#)
3. Slovic, P. Understanding perceived risk: 1978–2015. *Environment* **2016**, *58*, 25–29. [\[CrossRef\]](#)
4. Reyna, V.F.; Broniatowski, D.A.; Edelson, S.M. Viruses, vaccines, and COVID-19: Explaining and improving risky decision-making. *J. Appl. Res. Mem. Cogn.* **2021**, *10*, 491–509. [\[CrossRef\]](#) [\[PubMed\]](#)
5. Slovic, P. Perception of risk: Reflections on the psychometric paradigm. *Social Theor. Risk* **1992**, *236*, 117–152.
6. Douglas, M. *Risk and Acceptability*; Routledge: London, UK, 2013.
7. Jeong, J.S.; Kim, S.Y. Risk perception and preventive behavior during the COVID-19 Pandemic: Testing the effects of government trust and information behaviors. *Health Commun.* **2023**, 1–12. [\[CrossRef\]](#) [\[PubMed\]](#)
8. Gan, Y.; Fu, Q. Risk perception and coping response to COVID-19 mediated by positive and negative emotions: A study on Chinese college students. *PLoS ONE* **2022**, *17*, e0262161. [\[CrossRef\]](#)
9. Abdelrahman, M. Personality traits, risk perception, and protective behaviors of Arab residents of Qatar during the COVID-19 pandemic. *Int. J. Ment. Health Addict.* **2022**, *20*, 237–248. [\[CrossRef\]](#)
10. Kim, S.; Cho, S.K.; LoCascio, S.P. The role of media use and emotions in risk perception and preventive behaviors related to COVID-19 in South Korea. *Asian J. Public Opin. Res.* **2020**, *8*, 297–323.
11. Savadori, L.; Lauriola, M. Risk perception and protective behaviors during the rise of the COVID-19 outbreak in Italy. *Front. Psychol.* **2021**, *11*, 577331. [\[CrossRef\]](#)

12. Zou, Y.; Meng, F. Chinese tourists' sense of safety: Perceptions of expected and experienced destination safety. *Curr. Issues Tour.* **2020**, *23*, 1886–1899. [[CrossRef](#)]
13. Zhang, S.; Tang, J.; Li, W.; Zheng, G. Does gating make residents feel safer? Evidence from the gated villages of Beijing. *Cities* **2020**, *101*, 102676. [[CrossRef](#)]
14. Yan, Y.; Lu, F. A survey and analysis on the sense of nuclear safety & security for the public: A Chinese perspective. *Sustainability* **2018**, *10*, 2495.
15. Akalin, N.; Kristoffersson, A.; Loutfi, A. Do you feel safe with your robot? Factors influencing perceived safety in human-robot interaction based on subjective and objective measures. *Int. J. Hum.-Comput. Stud.* **2022**, *158*, 102744. [[CrossRef](#)]
16. Geng, S.; Zhou, Y.; Zhang, W.; Lou, A.; Cai, Y.; Xie, J.; Li, X. The influence of risk perception for COVID-19 pandemic on posttraumatic stress disorder in healthcare workers: A survey from four designated hospitals. *Clin. Psychol. Psychother.* **2021**, *28*, 1146–1159. [[CrossRef](#)]
17. Han, Q.; Zheng, B.; Agostini, M.; Bélanger, J.J.; Gützkow, B.; Kreienkamp, J.; Reitsema, A.M.; van Breen, J.A.; Leander, N.P.; PsyCorona Collaboration. Associations of risk perception of COVID-19 with emotion and mental health during the pandemic. *J. Affect. Disord.* **2021**, *284*, 247–255. [[CrossRef](#)]
18. Ozer, O.; Ozkan, O.; Ozmen, S.; Erçoban, N. Investigation of the effect of COVID-19 perceived risk on death anxiety, satisfaction with life, and psychological well-being. *OMEGA-J. Death Dying* **2021**, *87*, 572–590. [[CrossRef](#)] [[PubMed](#)]
19. Yildirim, M.; Guler, A. Positivity explains how COVID-19 perceived risk increases death distress and reduces happiness. *Pers. Individ. Differ.* **2021**, *168*, 110347. [[CrossRef](#)]
20. Peluso, A.M.; Pichierri, M. Effects of socio-demographics, sense of control, and uncertainty avoidability on post-COVID-19 vacation intention. *Curr. Issues Tour.* **2021**, *24*, 2755–2767. [[CrossRef](#)]
21. Huang, L.; Hou, Y.; Sun, Z.; Wang, Q. How does COVID-19 risk perception affect sense of control? The roles of death anxiety and confucian coping. *Int. J. Environ. Res. Public Health* **2023**, *20*, 2299. [[CrossRef](#)]
22. Pickett, J.T.; Roche, S.P.; Pogarsky, G. Toward a bifurcated theory of emotional deterrence. *Criminology* **2018**, *56*, 27–58. [[CrossRef](#)]
23. Shippee, N.D. Victimization, fear of crime, and perceived risk: Testing a vulnerability model of personal control. *Sociol. Perspect.* **2012**, *55*, 117–140. [[CrossRef](#)]
24. Chon, D.S.; Wilson, M. Perceived risk of burglary and fear of crime: Individual -and country- level mixed modeling. *Int. J. Offender Ther.* **2016**, *60*, 308–325. [[CrossRef](#)]
25. Elmas, M.S. Perceived risk of terrorism, indirect victimization, and individual-level determinants of fear of terrorism. *Secur. J.* **2021**, *34*, 498–524. [[CrossRef](#)]
26. Yuan, Y.; Melde, C.; Zhang, N.; Pagidipati, P. Race, ethnicity, psychological factors, and COVID-19 vaccine hesitancy during the COVID-19 pandemic. *Psychol. Health Med.* **2023**, *28*, 427–438. [[CrossRef](#)]
27. Xie, C.; Zhang, J.; (Sam) Huang, S. Effect of risk message framing on tourists' travel intention: Roles of resilience and impulsivity. *J. Travel Res.* **2023**, *62*, 802–819. [[CrossRef](#)]
28. Mehrabian, A.; Russell, J. *An Approach to Environmental Psychology*; The MIT Press: Boston, MA, USA, 1974.
29. Huang, Y.; Yang, C. A metacognitive approach to reconsidering risk perceptions and uncertainty: Understand information seeking during COVID-19. *Sci. Commun.* **2020**, *42*, 616–642. [[CrossRef](#)]
30. Dionne, S.D.; Gooty, J.; Yammarino, F.J.; Sayama, H. Decision making in crisis: A multilevel model of the interplay between cognitions and emotions. *Organ. Psychol. Rev.* **2018**, *8*, 95–124. [[CrossRef](#)]
31. Lerner, J.S.; Keltner, D. Beyond valence: Toward a model of emotion-specific influences on judgement and choice. *Cogn. Emot.* **2000**, *14*, 473–493. [[CrossRef](#)]
32. Chick, C.F. Cooperative versus competitive influences of emotion and cognition on decision making: A primer for psychiatry research. *Psychiatry Res.* **2019**, *273*, 493–500. [[CrossRef](#)]
33. Zhang, W.; You, Y.; Wang, L.; Liu, W.; Zhang, X.C. Information overload's double-edged sword effect on sense of safety: Examining the moderating role of hypervigilance. *Stress Health* **2022**, *39*, 539–552. [[CrossRef](#)]
34. Ding, Y.N.; Du, X.Y.; Li, Q.M.; Zhang, M.; Zhang, Q.J.; Tan, X.D.; Liu, Q. Risk perception of coronavirus disease 2019 (COVID-19) and its related factors among college students in China during quarantine. *PLoS ONE* **2020**, *15*, e0237626. [[CrossRef](#)] [[PubMed](#)]
35. Dedeoglu, B.B.; Bogan, E. The motivations of visiting upscale restaurants during the COVID-19 pandemic: The role of risk perception and trust in government. *Int. J. Hosp. Manag.* **2021**, *95*, 102905. [[CrossRef](#)] [[PubMed](#)]
36. Kye, B.; Hwang, S.J. Social trust in the midst of pandemic crisis: Implications from COVID-19 of South Korea. *Res. Soc. Strat. Mobil.* **2020**, *68*, 100523. [[CrossRef](#)] [[PubMed](#)]
37. Bandura, A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol. Rev.* **1977**, *84*, 191–215. [[CrossRef](#)]
38. Tahmassian, K.; Moghadam, N.J. Relationship between self-efficacy and symptoms of anxiety, depression, worry and social avoidance in a normal sample of students. *Iran. J. Psychiatry Behav. Sci.* **2011**, *5*, 91–98.
39. Li, Y.; Liu, Z.; Lan, J.J.; Ji, M.; Li, Y.; Yang, S.Y.; You, X.Q. The influence of self-efficacy on human error in airline pilots: The mediating effect of work engagement and the moderating effect of flight experience. *Curr. Psychol.* **2021**, *40*, 81–92. [[CrossRef](#)]
40. Kim, B.J.; Jung, S.Y. The mediating role of job strain in the transformational leadership–safety behavior link: The buffering effect of self-efficacy on safety. *Int. J. Environ. Res. Public Health* **2019**, *16*, 1425. [[CrossRef](#)]
41. Jeon, M.; Walker, B.N.; Yim, J.B. Effects of specific emotions on subjective judgment, driving performance, and perceived workload. *Transp. Res. Part F Traffic Psychol. Behav.* **2014**, *24*, 197–209. [[CrossRef](#)]

42. Zhang, Y.; Wang, Y.; Ahmad, A.B.; Shah, A.A.; Qing, W. How do individual-level characteristics influence cross-domain risk perceptions among Chinese urban residents? *SAGE Open* **2021**, *11*, 21582440211003570. [[CrossRef](#)]
43. Wang, Y.; Xu, C.; Cao, M. *Report of Chinese Urban Safety Sense (2018)*; Social Science Literature Press: Beijing, China, 2018.
44. Dryhurst, S.; Schneider, C.R.; Kerr, J.; Freeman, A.L.J.; Recchia, G.; van der Bles, A.M.; Spiegelhalter, D.; van der Linden, S. Risk perceptions of COVID-19 around the world. *J. Risk Res.* **2020**, *23*, 994–1006. [[CrossRef](#)]
45. Luszczyńska, A.; Scholz, U.; Schwarzer, R. The general self-efficacy scale: Multicultural validation studies. *J. Psychol.* **2005**, *139*, 439–457. [[CrossRef](#)] [[PubMed](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.