



MEDIATING EFFECTS OF SITUATIONAL MOTIVATION IN PROBLEM-SOLVING ON RISK PERCEPTION AND COMMUNICANT ACTIVENESS DURING COVID-19 MOBILITY RESTRICTIONS IN CHINA

By

LIU JIE

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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July 2024

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The countries responding to health emergencies experienced challenges in curbing the spread of the COVID-19 through communication and public mobility restrictions. Although the general public in China welcomed the enforcement of such countermeasures, some citizens hesitated to comply with the mobility restrictions during the pandemic. Situational Theory of Problem Solving (STOPS) posits that individuals' responses to public issues are influenced by their situational motivations and perceptions. This study aims to elucidate how situational motivation mediates the relationship between risk perception and communicant activeness during COVID-19 mobility restrictions in China. This study employed the STOPS to (i) examine public response and segmentation towards public mobility restrictions during COVID-19 and (ii) ascertain whether public risk perception (RP) affects communicant activeness (CA) on mobility restrictions from a communication standpoint. Four elements of public segmentation (non-public, latent public, aware public, and active

public) were categorised based on public behaviour. A total of 632 respondents in Beijing were selected via cluster sampling to address the online questionnaire. The survey data were subsequently analysed with Statistical Product and Service Solutions (SPSS) and Structural Equation Modelling (SEM). Based on the analysis outcomes, both the active (48%) and aware (29%) public were the key research groups. The hypotheses tested in this study were duly supported. The empirical outcomes are presented as follows: (i) Risk perception (RP) significantly affected public recognition; (ii) problem recognition (PR) and involvement recognition (IR) positively influenced health information communicant activeness (CA) via situational motivation in problem-solving (SMPS); and (iii) constraint recognition (CR) negatively affected health information communicant activeness (CA) via situational motivation in problem-solving (SMPS). In essence, the active public can serve as activists to address public mobility restriction issues during COVID-19. Public relations primarily aim to mobilise the aware public to become an active one. This empirical work examines the effectiveness of STOPS applied to COVID-19 and incorporates risk perception into a theoretical framework, which explains public response to mobility restrictions. The current outcomes potentially catalyse health information communication strategies and public relations to improve policy communication and public adherence by understanding different public segments' behaviours.

Keywords: COVID-19, Situational Theory of Problem Solving, Mobility Restrictions, Risk Perception, Communicant Activeness

SDG: GOAL 3: Good Health and Well-Being

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KESAN PENGANTARAAN SITUASI MOTIVASI DALAM PENYELESAIAN
MASALAH TERHADAP PERSEPSI RISIKO DAN KEAKTIFAN
KOMUNIKASI SEMASA SEKATAN PERGERAKAN COVID-19 DI CHINA**

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Semasa dunia menghadapi pandemik COVID-19, banyak negara menghadapi cabaran kecemasan kesihatan dengan mengekang penyebaran penyakit tersebut melalui komunikasi dan sekatan mobiliti awam. Di negara China, orang awam menyambut baik penguatkuasaan tindakan sekatan akan tetapi terdapat juga rakyatnya teragak-agak mematuhi sekatan mobiliti tersebut. Teori Situasi Penyelesaian Masalah (STOPS) menyatakan bahawa respons individu terhadap isu awam dipengaruhi oleh motivasi dan persepsi situasi mereka. Kajian ini bertujuan untuk menjelaskan bagaimana motivasi situasi memediasi hubungan antara persepsi risiko dan keaktifan komunikator semasa sekatan mobiliti COVID-19 di China. Kajian ini menggunakan STOPS untuk (i) mengkaji tindak balas dan segmentasi awam terhadap sekatan mobiliti awam semasa COVID-19 dan (ii) memastikan persepsi risiko awam (RP) mempengaruhi keaktifan komunikasi (CA) terhadap sekatan mobiliti dari sudut komunikasi. Terdapat empat elemen pembahagian awam iaitu bukan

awam, awam terpendam, awam sedar dan awam aktif yang dikategorikan berdasarkan tingkahlaku awam. Sejumlah 632 responden telah dipilih melalui pensampelan kelompok untuk menjawab soal selidik dalam talian di Beijing. Data tinjauan tersebut kemudiannya dianalisis dengan Penyelesaian Produk dan Perkhidmatan Statistik (SPSS) dan Pemodelan Persamaan Struktur (SEM). Berdasarkan hasil analisis, orang awam yang aktif (48%) dan orang awam yang sedar (29%) adalah kumpulan utama penyelidikan. Hipotesis yang diuji telah disokong dengan sewajarnya. Hasil empirikal dibentangkan seperti berikut: (i) Persepsi risiko (RP) memberi kesan ketara kepada pengiktirafan awam; (ii) pengecaman masalah (PR) dan pengiktirafan penglibatan (IR) mempengaruhi keaktifan komunikasi maklumat kesihatan (CA) secara positif melalui motivasi situasi dalam penyelesaian masalah (SMPS); dan (iii) pengecaman kekangan (CR) memberi kesan negatif kepada keaktifan komunikasi maklumat kesihatan (CA) melalui motivasi situasi dalam penyelesaian masalah (SMPS). Pada dasarnya, orang awam yang aktif boleh bertindak sebagai aktivis untuk menangani isu sekatan mobiliti awam semasa COVID-19. Keutamaan perhubungan awam bertujuan untuk menggerakkan orang ramai yang sedar untuk menjadi orang yang aktif. Kajian empirikal ini membuktikan keberkesanan STOPS yang digunakan untuk COVID-19 dan menggabungkan persepsi risiko ke dalam kerangka teori, yang menerangkan tindak balas orang ramai terhadap sekatan mobiliti. Hasil kajian semasa berpotensi memangkinkan strategi komunikasi maklumat kesihatan dan perhubungan awam untuk meningkatkan komunikasi dasar dan pematuhan awam dengan memahami segmen tingkahlaku awam yang berbeza.

Kata Kunci: COVID-19, Teori Situasi dalam Penyelesaian Masalah, Sekatan Mobiliti, Persepsi Risiko, Keaktifan Penyampai Maklumat

SDG: MATLAMAT 3: Kesihatan yang Baik dan Kesejahteraan



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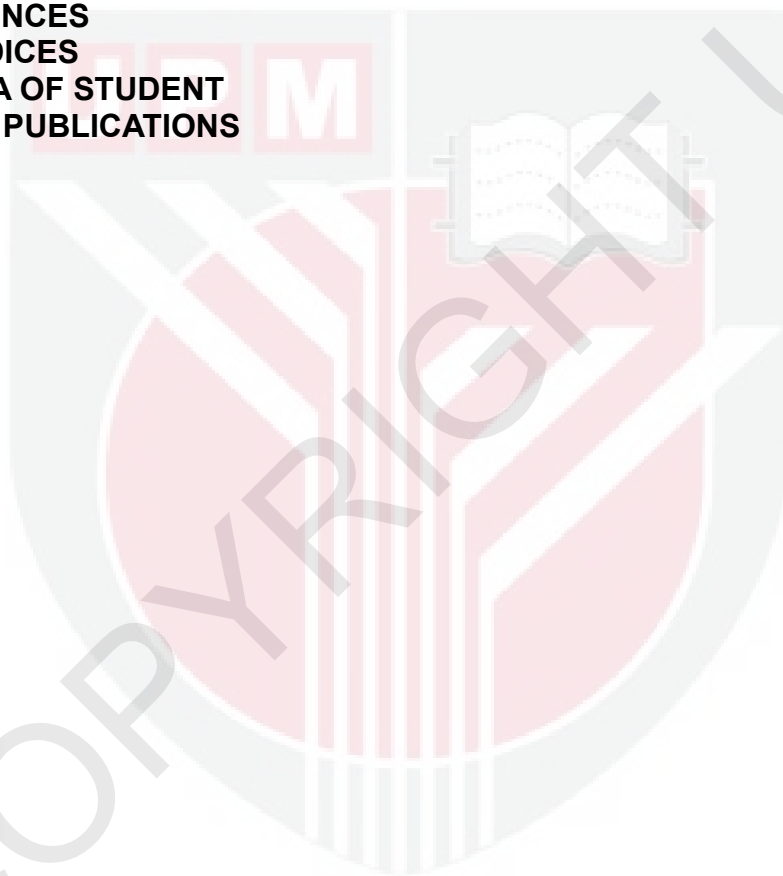
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LIST OF ABBREVIATIONS

COVID-19	Corona Virus Disease 2019
WHO	World Health Organization
GDP	Gross Domestic Product
OECD	Organisation for Economic Co-operation and Development
RCCE	Risk Communication and Community Engagement
SOP	Standard operation procedure
HBM	Health Belief Model
ASEAN	Association of Southeast Asian Nations
STP	Situational Theory of Publics
STOPS	Situational Theory of Problem Solving
RP	Risk Perception
PR	Problem Recognition
CR	Constraint Recognition
IR	Involvement Recognition
SMPS	Situational Motivation in Problem Solving
CA	Communicant Activeness
CAPS	Communicative Action in Problem Solving
IT	Information Transmission
IA	Information Acquisition
IS	Information Selection
SEM	Structural Equation Modelling
SPSS	Statistical Product and Service Solutions
AMOS	Analyze of Moment Structures
IV	Independent Variable
DV	Dependent Variable
MV	Mediating Variable
KMO	Kaiser-Meyer-Olkin

CITC	Corrected Item-Total Correlation
EFA	Exploratory Factor Analysis
PCA	Principal Component Analysis
CFA	Confirmatory Factor Analysis
GFI	Goodness of fit index
AGFI	Adjusted Goodness of Fit Index
IFI	Incremental Fit Index
NFI	Normed Fit Index
CFI	Comparative Fit Index
TLI	Tukey-Lewis Index
RMSEA	Root Mean Square Error of Approximation
CMIN	Chi-square Statistics
df	Degree of Freedom
AVE	Average Variance Extracted
cr	Composite Reliability
SD	Standard Deviation
C.R	Critical Ratio
SE	Standard Error

CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

This chapter provides an overview of the study, which concerns the emergency resulting from Corona Virus Disease 2019 (COVID-19), with elaborations on public communication behaviour towards mobility restrictions. The problem statement, research questions and objectives, study significance, and research scope are also highlighted. Presented in the final section, the definition of keywords offers a sound understanding of the research focus.

1.2 Background of the Study

Known as an acute respiratory infectious disease caused by '2019-nCoV' (SARS-CoV-2), COVID-19 was named by the World Health Organization [WHO] on 11 February 2020 in Geneva (WHO, 2020). Following authoritative statistics, fever, dry cough, and fatigue are key symptoms of COVID-19. Some patients experience upper respiratory and gastrointestinal symptoms, such as nasal congestion, runny nose, and diarrhoea. In severe cases, the patients primarily develop dyspnea after one week, progresses to acute respiratory distress syndrome, septic shock, metabolic acidosis that is difficult to correct, coagulation dysfunction, and multiple organ failure. Critically ill patients may have moderate to low or even no fever. Those with mild symptoms only showed low fever and mild fatigue without pneumonia (Chinese Center for Disease Control and Prevention, 2020).

The Chinese Wuhan Municipal Health Commission declared the world's first case of 'viral pneumonia of unknown cause' on 31 December 2019 (WHO, 2019). As of 4:42 pm CET on 20 January 2022 (excluding Antarctica), the cumulative number of confirmed COVID-19 cases reported to WHO was 336,790,193, including 5,560,718 deaths (WHO, 2022). The number of confirmed COVID-19 cases continues to rise, with adverse impacts on a global scale. In January 2022, the new confirmed cases of Omicron (a COVID-19 variant) exceeded 3 million for several consecutive days. This viral outbreak is deemed the most severe global health emergency of the 20th century, which caused acute health issues. Subsequently, the WHO declared COVID-19 a pandemic, which necessitates prompt response and mitigation efforts (WHO, 2021). The negative implications of COVID-19 have left no individual immune to the pandemic.

1.2.1 The State of Public Outdoor Activities

Outdoor refers to open-air places other than where people daily work, study, or rest (shopping malls, restaurants, gyms, parks, mountains, and playgrounds). Meanwhile, outdoor activities are gaming, leisure, social, consumption, and commuting activities performed away from the daily station. Any sports activities, such as mountaineering, hiking, and cross-country activity) denote outdoor activities performed in natural or artificial open spaces. Nevertheless, outdoor activities concepts have broadened with advancements in human activities and needs.

Outdoor activities have become inextricably linked to people's modern lifestyle. The World Health Organization recommends over 420 minutes of moderate physical activity per week for children between five and 17 years old and 180 minutes per week for adults between 18 and 64 years old (WHO, 2017). Notably, teenagers and children actively engage in outdoor activities to destress and self-develop. Middle-aged people participate in outdoor activities, which extend beyond their work or workplace, for social interaction. Meanwhile, elderly people benefit from outdoor activities in terms of improved physical health.

Notably, governments worldwide have mandated public mobility restrictions, which prohibited public and private gatherings, domestic movement, and public transportation to curb the COVID-19 spread. via stay-at-home orders. Although such measures are key to preventing the viral spread (WHO, 2021), the extent to which people should continue regular outdoor activities while adhering to the government's proposal requires clarification. World Health Organization (2021) highlighted the importance of maintaining social distancing as a key epidemic prevention strategy during COVID-19, which requires self-discipline and cooperation.

Based on the survey results, almost 60% of the respondents completely stopped engaging in social interaction activities (Chu, Lu & Shen, 2020). Except for having to travel to work (66.8%) and meeting daily life needs (88%), over half of the Chinese netizens did not "go out for entertainment and leisure", "visit relatives and friends to meet", "shake hands and hug people" and "eat

in public (including restaurants)" at the peak of the epidemic. Social interaction activities were significantly reduced during this period (Chu et al., 2020). Many states in the USA issued stay-at-home orders in March 2020 to limit travel and social gatherings to essential activities. Notwithstanding, recent cellular data revealed that under 40% of Americans stayed home from April to May 2020 (McMinn, 2020).

Given the global emphasis on public compliance with mobility restrictions, it proves crucial to internalise communicants' activeness and identify the key determinants of their actions. Relevant scholars require a sound comprehension of public communication behaviour to curb the spread of COVID-19 via mobility restrictions and establish a complementary and positive relationship between policies and public mobility restriction implementations.

1.2.2 Risk Perception and Communicant Activeness

As hypothesised by Hyams, Murphy and Wessely (2002), an unknown lethal virus can induce high stress, fear, and risk levels among the public. The high infectivity and fatality rate caused by this 21st century pandemic has caused panic, which is the perception and fear of risk. Public risk perception (RP) of COVID-19 is similar to that of major epidemics in history, particularly in the infancy of virus transmission, without preventive measures, virus control experience, and lack of therapeutic drugs and preventive vaccines.

The information released by government bodies and social media or the knowledge gleaned from problematic situations leads to RP. Following the

Risk Communication and Community Engagement (RCCE) Action Plan Guidance, the government should integrate all publicity channels (including traditional media, social media, and self-media) to optimise risk communication during COVID-19 (WHO, 2020). Past works have highlighted the need to improve risk communication between the government and media for enhanced public risk perception (Nguyen & Le, 2021; Tam, Ho, Nguyen, Elias & Le, 2021).

With regards to problematic situations (Chatterjee, Bajwa, Dwivedi, Kanji, Ahammed & Shaw, 2020; Choi & Powers, 2021; Dryhurst, Schneider, Kerr, Freeman, Recchia, Van Der Bles, Spiegelhalter & Van Der Linden, 2020), the general public has an increased subjective perception and recognition of a specific circumstance. For example, public perception of the infectivity and severity towards COVID-19 increases with the rise of confirmed COVID-19 cases and deaths in the immediate environment, the diverse and uncontrollable symptoms, the optimisation of disinfection measures, and the enforcement of preventive measures by the general public. Hence, public perception of a problem results from the information gained through risk communication and the public.

The RP-public behaviour relationship in public communication activities is pivotal to controlling the rampant spread of COVID-19 in addition to public involvement, the implementation of government preventive measures, and treatment plans. Not unlike the public RP of COVID-19, citizens are inclined to undertake preventive measures of their own volition (Biswas, Huq, Afiaz &

Khan, 2020; Moll Reece, Cosford & Kessel, 2016; Nguyen & Le, 2021; Choi & Powers, 2021; Karasneh, Al-Azzam, Muflih, Soudah, Hawamdeh & Khader, 2021; World Health Organization, 2020). Van den Broucke (2021) indicated that people's high RP of COVID-19 infection risk and severity motivate them to apply preventive measures.

The RP-communication behaviour link lacks a specific process for communication activities. As opposed to cognition, the subjectivity of public RP renders it impossible to directly affect behaviour without rational thinking. Public mobility restrictions are intertwined with people's perception of COVID-19, which is an epidemic virus. Hence, public perception is risk-oriented, with intuitive feelings about COVID-19 infectiousness and severity. Rational thinking, which forms cognition post-perception, is motivated to develop behaviour.

Risk communication denotes the process between public RP and communication behaviour (Walaski, 2011). Specifically, public communication behaviour is generated after motivation (Şengel, Genç, Işkın, Çevrimkaya, Zengin & Sarıışık, 2023; Chi, 2022). Public implementation of government guidelines is a compliance behaviour while sharing is a positive communication behaviour. Given the emphasis on public preventive behaviour towards COVID-19, research on public communication activeness remains lacking. Potential scholars must explore public RP and validate the relations between public RP of COVID-19 and communicant activeness (CA) to analyse public mobility restrictions during the pandemic.

1.3 Statement of the Research Problem

The COVID-19 pandemic has led to the implementation of mobility restrictions as a vital public health strategy aimed at curbing the virus's spread. Although these mobility restrictions have been widely issued, public compliance with these restrictive strategies has not fully met policymakers' expectations (Chu et al., 2020; McMinn, 2020). This issue suggests a complex communication process from releasing restrictive strategies to the public's responsive behaviour. Mobility restrictions may be flawed during information communication and further contribute to the lack of public motivation to respond to government measures. In a complex problem situation, especially in a risk situation affecting public health, the factor of public communicant activeness is important for health communication strategies.

Although previous studies have explored some of the factors that influence public communicant activeness, such as government influence, media communication power, and the public's personal experiences and cognitions (Thanh, Nguyen, Ngan, Nguyen, Phan & Nguyen, 2022; Wang, Chen, Hu & Qi, 2021; Duong, Le Bao, Nguyen, Van, Lam, Gia, Anuratpanich & Van, 2020; Karasneh et al., 2021; Roh & Oh, 2021) However, most scholars have focused on research on communication strategies that are external to the public, e.g., policy and media (Duong et al., 2020; Karasneh et al., 2021). Such studies tend to neglect the psychological factors of the public, the motivation of the public to engage in communication behaviours, and the elements that mobilise the public from passive to active participation in communication behaviours. That is, the relationship and interplay between the factors of public risk

perception and public communicant activeness in specific risk situations have not been adequately investigated.

The limitations of the research methodology of previous studies also prevented this issue from being addressed, and there is still a lack of evidence from empirical studies to show the impact of public risk perception on public willingness to engage in health communication. According to Tam, Ho, Nguyen, Elias and Le (2021), qualitative research cannot objectively measure the relationship between public cognition and behavioural motivation to detect the complexity of the public's behaviour in engaging in health communication. Especially in a global health risk situation such as COVID-19, both misinformation communication and public distrust of policy can significantly affect the motivation of public communication behaviour (Khozaei, Kim, Nematipour & Ali, 2021; Godovykh, Pizam & Bahja, 2021; Abdel Fattah, Dahleez, Mohamed, Okour & AL Alawi, 2022; Wang, Chen, Hu & Qi, 2021; Hu, Wang, Chen & Jiang, 2020; Zhou & Liu, 2021). Therefore, it is necessary to measure the interactions among risk perception, problem recognition, constraint recognition, and involvement recognition among the public through quantitative research methods. The results of this study can provide valuable theoretical support for health and wellness communication strategy makers.

This study is mainly based on the Situational Theory of Problem Solving (STOPS) in order to investigate the issue of public communication activism during COVID-19. STOPS theory has been widely used to analyse public communication behaviours in specific contexts such as public health crises

(Chon & Park, 2021). According to Kim and Grunig (2011), STOPS theory emphasises the process by which the public identifies problems and responds to them. This theory is highly relevant to the research objectives of this study and facilitates the researcher's understanding of risk perception on public communicant activeness. Also, the theory classifies the public into multiple categories, including active, aware, latent, and non-public (Kim & Grunig, 2011). In the COVID-19 pandemic risk scenario, public behaviour is influenced by a variety of factors, and different groups of the public have different perceived risk and communication behaviours. This categorisation is valuable for understanding how different publics comply with health directives and for tailoring different communication strategies. However, there is still a gap in existing research on how risk perception affects the public's willingness to engage in health communication behaviours or in examining the relationship between the public's risk perception and communicant activeness. This gap is crucial for mobilising the public to move from the aware public to the active public.

In addition, The Communicative Action in Problem Solving (CAPS) model focuses on the communicative behaviours adopted by the public in response to a problem and emphasises the reuse of dialogue and interaction in solving a problem. Kim (2011) argues that the CAPS model, while ignoring the cognitive factors, focuses on the interaction behaviour of individuals. That is to say, the STOPS theory focuses on the cognitive process of public participation in communication, and the CAPS model emphasises the active role of the public in problem solving. The CAPS model enhances the

understanding of public participation in communication behaviours, which supports the STOPS theory. The STOPS theory also complements the cognitive factors in the CAPS model that affect the behaviour of individual people, such as public recognition and situational motivations, exploring the impact of cognitive factors on the public's willingness to communicate and take action during a crisis, emphasising the importance of public involvement in communication. In the context of health emergencies such as COVID-19, the combination of the CAPS model and STOPS theory allows researchers to effectively explore the influence of situational motivations on public communicant activeness and provides practical insights into the development of effective communication strategies.

This study addresses these gaps by systematically investigating the relationship between risk perception and communicant activeness in the context of mobility restrictions during the COVID-19 pandemic. By employing the STOPS (Segmentation, Targeting, and Positioning Strategy) framework, this research will explore how different segments of the population perceive and respond to health communication. The study will utilize quantitative surveys to assess risk perception and communicant activeness. This approach will not only contribute to the theoretical understanding of the factors influencing public behavior but also provide actionable insights for public health policies and communication strategies. By identifying the key drivers of communicant activeness and the role of risk perception, this research aims to foster a more informed and engaged public response in the face of health

crises, ultimately enhancing the effectiveness of mobility restrictions and other public health measures.

1.4 Research Questions

1. What are the Chinese citizens' response to mobility restrictions during COVID-19 in China?
2. What is the public segmentation within the public mobility restrictions issue?
3. What is the relationship between risk perception, public recognition, situational motivation in problem-solving, and communicant activeness towards COVID-19?
4. What is the relationship between public recognition and public communicant activeness through the mediating variable of situational motivation in problem-solving?

1.5 Research Objectives

This study aimed to identify the public mobility restrictions issue resulting from COVID-19 and examine the effect of Chinese citizens' risk perception on mobility restrictions.

Specific Objectives

1. To examine how Chinese citizens acquire, select, and provide information on mobility restrictions during COVID-19 based on the risk perception level.
2. To identify the public segmentation on mobility restriction issues.

3. To examine the relationship between risk perception, public recognition, situational motivation in problem-solving, and communicant activeness towards COVID-19.
4. To examine the relationship between public recognition and public communicant activeness through the mediating variable of situational motivation in problem-solving.

1.6 Significance of the Study

1.6.1 Practical Aspects

The study outcomes are generalisable to other governmental actions with similar measures that control the COVID-19 pandemic and large-scale health crises with the same attributes. In this vein, the current research methods and results can serve as a standard operation procedure (SOP) for similar works. Such procedures describe the steps undertaken to perform a routine activity, which ensure organisational consistency and compliance with industry regulations and standards. With regards to a new large-scale health emergency, potential scholars can use the current study's conceptual framework, methodology, and SOP to guide their analysis of the latest viruses and the relationship between public RP and the CA regarding new viruses.

Although this study emphasised the Chinese public, the empirical outcomes are generalisable to other countries. Relevant government bodies can develop workable policies based on public subjective characteristics and behavioural habits to address government restriction issues on public behaviour in large-scale public health crises.

The current work examined the effects of public recognition and the implementation of governmental restriction orders in the wake of a health hazard based on the following questions. How will the public behave under a government restraining order? What are the main factors influencing the public to continue or cancel their outdoor activity plans? Following the unforeseen circumstances of COVID-19, no valid cases or appropriate studies are available as a frame of reference.

A sound understanding of the public RP-behaviour relationship can bridge the gap in public mobility restrictions under COVID-19 and other significant public health events, facilitate public outdoor actions, and underscore the public segmentation issue in this context. Public relations practitioners aimed to mobilise the public to become activists who successfully address public mobility restriction issues during COVID-19.

1.6.2 Theory Aspects

The theoretical significance of this study lies in its application of STOPS to health communication to analyse public communication behaviour (particularly mobility restrictions) from a public relations standpoint. As a framework underpinned by social cognitive theory and communication science, the STOPS theory aims to explain people's behaviour during information acquisition, assessment, and dissemination. Researchers who incorporate this framework into health communication domains can better understand public decision-making and behaviour amidst health crises.

The introduction of RP as an exogenous variable is another significant contribution that enhances the STOPS applicability to assess the public RP-CA relationship in the health communication field. The RP enhances the recognition of involvement and problems, while public perception and an understanding of risk directly affect people's behavioural choices and information communication. Overall, RP plays a pivotal role in health communication.

The current work provided a comprehensive framework that integrates STOPS theory and RP to justify the action constraints faced by the public in health communication and its impact on RP and communication behaviour. This integrated perspective provided theoretical insights into the public behavioural decision-making process in health communication and guidelines to develop optimal health communication strategies.

In summary, the theoretical significance of this study is multifaceted. It enhances the understanding of public responses to mobility restrictions, contributes to the discourse on public segmentation in health communication, elucidates the relationships among key variables influencing public engagement, and highlights the mediating role of situational motivation. These contributions not only advance theoretical frameworks in health communication but also provide a foundation for future research aimed at improving public health responses in times of crisis.

1.6.3 Method Aspects

This study employed quantitative methods to delineate the relationship between RP, public recognition, SMPS, and CA. The novelty of this study lies in its assessment of the relationship between RP and other variables for the first time. The relationship between public recognition, SMPS, and CA was also analysed under STOPS.

The relationship between these study variables was re-tested for COVID-19. Using inferential and descriptive statistics allows the researcher to infer the findings from the sample size to represent the target population and quantify empirical data and outcomes. Data analysis was performed via SPSS and SEM software. The representativeness of the study samples allows for outcome generalisation to other cities in China.

1.6.4 Policy Aspects

This research aimed to garner the government's interest in the spread of mobility restriction information by offering key information, which outlines how public RP affects public recognition, SMPS, and CA. Such knowledge can facilitate relevant government bodies to regulate public outdoor behaviour and reduce the COVID-19 transmission rate.

1.7 Scope of the Study

Health communication has gained much scholarly attention following the unprecedented emergence of COVID-19. Similarly, this study examined health

communication with emphasis on COVID-19 and public coping strategies, specifically following the rapid spread of COVID-19. The STOPS theory served to analyse and address public mobility restrictions during the pandemic.

This study focused on public mobility restrictions, with an emphasis on public behaviour. National or group gatherings were not included. The current work also concerned the government policies issued to limit public non-essential outdoor activities. Regardless, the outdoor activities associated with people's work and life were excluded.

This study gathered survey data from individuals aged 18 years old and above in Beijing, the capital of China. The total number of respondents was 19,301,588, while the sample size was 1,000. As guardians typically manage and influence the behaviour of individuals under 18 years old, the law in China stipulates a minimum age limit of 18 for Chinese citizens to bear legal responsibility. As such, this survey did not involve individuals under 18 years old.

Beijing, the capital of China, was chosen to perform the survey given the strong government influence on public thoughts and behaviours. Moreover, the education level, moral concept, and ideological level of residents in Beijing are more advanced than in other provinces and cities. Such maturity led to the derivation of valid data and more generalisable outcomes.

1.8 Keywords of Definition

1.8.1 COVID-19

New Coronary Pneumonia refers to the pneumonia caused by COVID-19. The Director-General of the WHO, Tan Desai, announced on 11 February 2020 in Geneva, Switzerland, that the new coronavirus-infected pneumonia was named COVID-19. This infectious disease is caused by the SARS-CoV-2 virus (WHO, 2020). As a β -type coronavirus, COVID-19 has high transmission potential, transmission rate, and immune evasion. The population is easily infected by this virus, which is mainly transmitted through respiratory droplets and close contact, aerosol transmission in relatively closed environments, and contact with virus-contaminated objects (Chinese Centre for Disease Control and Prevention, 2021). Many variants of COVID-19 (Omicron, Alpha, Beta, Gamma, Delta, Epsilon, Eta, Iota, Kappa, Zeta, and Mu) have emerged from mutations in the viral genome following the initial outbreak (Centers for Disease Control and Prevention, 2023).

1.8.2 Risk Perception

Public RP is a key determinant of public motivation and behaviour (Wolff, Larsen & Øgaard, 2019; Hasan, Ismail & Islam, 2017; Artuğer, 2015). Initially, much emphasis was placed on RP as the public judgement of the magnitude and likelihood of risk (Loewenstein, Weber, Hsee & Welch, 2001). Based on psychologist Walaski (2011), RP requires risk communication to convince the public to make high-risk decisions. This element typically denotes public judgement of the level and attributes of risk (Cui, Liu, Chang, Duan & Li (2016).

Additionally, Slovic (2000) disclosed that perceived risk is quantifiable and predictable. The RP and real risk can be distinguished. Real risk denotes the uncertainty of the consequences resulting from an activity (Schmidli, 2017; Kahneman & Tversky, 2013), while RP primarily concerns the public, which entails individual experiences, attitudes, and judgements. These subjectivities are commonly influenced by social, cultural, and personal backgrounds (Schmidli, 2017; Kahneman & Tversky, 2013).

1.8.3 Perceptual and Cognitive Frame in Problem Solving

The PR is a gap between the current state (the extent to which perceived needs are actually met) and the desired state (how individual needs are met) (Gordon & Richardson, 1996). As such, PR occurs with a notable discrepancy between one's desired and actual state regarding a specific desire or need (Kim & Grunig, 2011). From the perspective of STOPS, PR occurs when "people perceive that something should be done about a situation and stop to think about what to do" (Kim & Grunig, 2011). As a perceptual state, PR is experienced following the failure of pre-conscious problem-solving (Grunig, 1997).

The CR, which is either psychological or physical, occurs when an individual recognises that behaviour is restricted by abilities. From a psychological perspective, CR is akin to self-efficacy: an individual's recognition of his ability to attain a specific outcome (Witte & Allen, 2000). In line with STOPS, constraint recognition is developed from self-efficacy. This theory

characterises CR as a cognitive dilemma that occurs in a particular situation, where people reflect restricted behaviour (Kim & Grunig, 2011).

The IR occurs when the public makes a perceived connection between the self and a specific problem (Kim & Grunig, 2011). Despite being based on the 'level of involvement' concept in the situational theory of public, IR does not resemble the degree of involvement. The level of involvement is a measure of an individual's relevance to an issue (Grunig & Hunt, 1984). Typically, people with higher involvement levels reflect critical analysis (Heath, Liao & Douglas, 1995) and cognition (Engelberg, Flora & Nass, 1995) during information acquisition.

1.8.4 Situational Motivation in Problem Solving

The SMPS represents "the state of increased cognitive and epistemic readiness to reduce the perceived discrepancy between expected and experiential states" in STOPS (Kim & Grunig, 2011). This variable implies the 'here and now' of motivation, which characterises the drive experienced in an activity (Vallerand, 1997). Motivation, which is frequently described as extrinsic or intrinsic, is key to guiding and motivating behaviour (Woodworth, 1926). Intrinsic motivation stems from the individual, while extrinsic motivation arises from the external environment (Tranquillo & Stecker, 2016).

1.8.5 Communicant Activeness

The CA analyses the extent to which people voluntarily learn and share information, with elaborations on how the public selects information relevant

to issues (Kim, 2006). Essentially, STOPS presents a full scope of communicative action on how and why the public employs different information strategies to address a problem. Public communicative activeness increases in three domains of communication action (information acquisition, selection, and transmission) when an individual attempts to solve an issue (Kim & Grunig, 2011). These actions are further categorised into six sub-communication actions based on the active and passive public: information seeking, information processing, information forefending, information permitting, information forwarding, and information sharing (Kim & Grunig, 2011).

1.8.6 Outdoor Activity

Outdoor activity is a group of collective events held on natural grounds (China Sports Management Center, 2019) to address health issues and improve individual performance (Cottrell & Cottrell, 2020). Physical exercise, spiritual recreation, and participation in nature typically exemplify outdoor activities. As such, the definition of outdoor activities includes rest and recreation (Betz, English & Cordell, 1999; Chen & Ng 2012). The definition of public outdoor activities in this study goes beyond open spaces to include public sports, gaming, leisure, social, consumption, and commuting activities.

1.8.7 Mobility Restrictions

Mobility restrictions are government-issued measures concerning public outdoor activities during COVID-19. Imposing such restrictions on the public can minimise human-to-human meetings, increase physical distancing, and mitigate the likelihood of COVID-19 transmission (Mahase, 2020). Although

mobility restrictions involve sanctions that order people to stay home, cease travel, and close shops, offices and public transportation (Rahman, Thill & Paul, 2020), they also provide incentives that allow people to work from home, expand online resources, conduct online meetings, teach, and shop. The scale and scope of mobility restrictions owing to COVID-19 are unprecedented compared to past pandemic responses (Rahman, M. M., Paul, Hossain, Ali, Rahman, M. S. & Thill, 2021).

1.9 Summary

This chapter provided a comprehensive overview of the research topic, which is centred on examining the factors influencing public engagement in communicative behaviours towards mobility restrictions during COVID-19. The problem statement and subsequent research questions guiding this study were extensively discussed. Additionally, the research significance highlighted its expansion of the current body of knowledge. The study scope and limitations were underscored to provide a clear delineation of its boundaries. In ensuring clarity and understanding, this chapter defined the key terms employed in the study.

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