

*Quickly Interactive Healing Installations Nurture Resilient Communities
After the Covid-19 Pandemic*

Tanhao Gao, Tongji University, China
Lili Zheng, Universidad de Barcelona, Spain
Hongtao Zhou, Tongji University, China

The Barcelona Conference on Arts, Media & Culture 2022
Official Conference Proceedings

Abstract

The Covid-19 pandemic has driven the globe into a physical and psychological public health catastrophe. In this "protracted battle" against the entire human immune system and the operating structures of society, many citizens have been forced to carry a substantial psychological burden. Worse still, the majority of mental disorder residents are unwilling to seek psychological therapy at healing centers or hospitals due to the lack of mental health awareness and the pressure of negative social judgment. From the perspective of urban renewal and social integration, it is necessary, crucial, and timely to design a more adaptable, inclusive, and friendly urban public space to help more community members alleviate their inner alienation and adjust more smoothly and comfortably to their new normal lives, through literature reviews of Urban Acupuncture and its related fields, such as Human Settlements Science, Urban Catalysts, and Citizen Participation theory. Based on summarizing their reality bottlenecks and the renewal potential, the paper proposes the general visions and research questions for Quickly interactive healing installations and discovers a series of design principles to enhance adaptability. They can be summarized as 1. Tapping the regeneration potential of leftover spaces in cities. 2. Building bridges between the emotional healing installation, traditional culture, and childhood memories. 3. The organic blending of aesthetics at the appearance level, functioning at the experience level, and healing at the inclusive social level. Furthermore, the paper shows two emotional healing installations to visibly and vividly demonstrate the design principles' applicability.

Keywords: Urban Acupuncture Intervention, Emotional Healing Installation, Alleviate Alienation

iafor

The International Academic Forum
www.iafor.org

1. Introduction

In early 2020, a sudden and unanticipated COVID-19 pandemic overtook the entire planet, wreaking disaster on the global economy and causing individuals to put their work, education, life, and social activities on hold. Public emergencies, such as public transportation and social communication restrictions, are risk factors for heightened levels of general psychological anxiety (Cénat et al., 2021). The suspension of work and education increases an individual's uncertainty about the future, the demand for medical supplies generates resources shortage and the spread of panic, and the fluctuating pandemic causes tremendous frustration and concern (Mazza et al., 2020). Compared to the general population, the anxiety level of health care workers is significantly higher. Society's unfriendly and unappreciative attitude toward pandemic prevention measures significantly increases the psychological burden of health care workers, reduces their professional identity, and increases negative emotions such as depression (Weibelzahl et al., 2021). COVID-19 has an indelible impact on all stakeholders' physical and mental development. Based on the literature review, this paper focuses on the adaptability of urban acupuncture interventions in public spaces and the community atmosphere. Then demonstrates a series of design principles that aim to heal the emotions of mental sub-health community residents during the post-COVID-19 pandemic era, rebuild community resilience, and further promote sustainable social innovation.

1.1 COVID-19 and the generated internal alienation among the residents

According to (Lazarus & Folkman, 1984) psychological stress theory, individuals will generate a succession of emotional, behavioral, and physiological stress reactions based on their cognitive appraisal when confronted with a significant crisis. When community residents face the unexpected COVID-19 pandemic, the stress response will trigger alterations in the autonomic nervous and neuroendocrine systems, resulting in widespread negative emotions such as fear, anger, helplessness, and panic. If negative emotions are not immediately controlled, individuals in a protracted state of stress may impair their physiological health, leading to more severe mental disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD)(Turner et al., 2020).

Guo et al. (2021) used the Self-rating Anxiety Scale (SAS) to analyze the psychological anxiety of 1222 individuals. The result showed that 601 (49. 2%) respondents answered that their lives were severely impacted. In comparison, 424 (34. 7%) claimed that their employment was seriously affected, which may lead to a sequence of negative psychological phenomena. The accompanying unpleasant mental states may distort their cognitive judgment and weaken their psychological resilience, which may exaggerate the impact of the pandemic and have long-lasting harmful repercussions on public health.

1.2 COVID-19 put heavier psychological pressure on the professional medical team

When health care workers face the COVID-19 pandemic, their workload has multiplied in a high infection risk environment. However, the shortage of medical resources and the public's lack of understanding of pandemic prevention have contributed to the high risk of negative emotions among professional medical teams. Zhang et al. (2021) used an online questionnaire to survey 2,745 healthcare workers involved in preventing and controlling the COVID-19 pandemic. She used the Perceived Stress Scale (PSS - 10), the Generalized Anxiety Disorder (GAD - 7), and the Patient Health Questionnaire (PHQ - 9) to evaluate the psychological status of medical teams. She also categorized the fever clinics, epidemiological

surveys, laboratory testing, and isolation centers. The results revealed 27.9% (95 percent CI: 26.2% to 29.5%) of medical team members feel stress, 30% (95 percent CI: 28.3% to 31.7%) feel anxiety, and 27.0% (95 percent CI: 25.4% to 28.7%) feel depressive symptoms.

Along with the development of COVID-19, the excessive mass media exposure associated with the pandemic has led to an outbreak of "Information Pandemic" (González-Padilla & Tortolero-Blanco, 2020), which refers to the fact that too much-mixed information makes it difficult for people to find trustworthy sources of information and may even be harmful to their physical and mental health. The spread of indiscriminate information, especially rumors, has caused panic among the population and affected public mental health (Cinelli et al., 2020).

2. The evolution of urban acupuncture theory and its associated fields

2.1 Urban Acupuncture

The theory of urban acupuncture was initially proposed by the Spanish architect Manuel de Sola Morales in 1982. The objective was to address the rehabilitation and renovation of the historic city of Barcelona. Urban acupuncture is a "micro-scale" urban development method with a "catalytic" approach. Urban acupuncture is a small-scale transformation of a specific region, which triggers changes in the surrounding environment, ultimately stimulating the city's vitality, transforming the urban landscape, and renewing the city. Ho (2017) showed a creative decision-making process of 'tracking, observing, discovering - mind mapping training - curating with thinking,' which provides another possibility to interpret urban environments. Ecological system acupuncture (Casagrande, 2012) explores the transition of post-industrial cities into organic cities. Petrova et al. (2016) offer a controversial perspective that the current strategies for urban micro-renewal still rely heavily on the subjective judgment of urban planners, which is a biased source of information. Based on this phenomenon, she proposed the concept of Urban Acupuncture 2.0. She recommended that the social media data of urban residents should be evaluated as actual social behaviors to optimize public engagement during decision-making.

2.2 Human Settlements Science

The second half of the 20th century witnessed the development of a comprehensive group of disciplines known as Human Settlements Science (HSS), which studies all residential areas, including villages, towns, and cities, and focuses on the connection between society and the environment (Doxiadis, 1970). HSS also emphasizes the political, social, cultural, and technical perspectives. The increased knowledge of ecology also closely related to the sustainable development of society. HSS has evolved and changed, from an initial focus on the technical aspects of living to a consideration of climate adaptation and social inclusion; from the isolated examination of architectural space to the exploration for a harmonious link between architecture and ecology; and from the specialist disciplines of architectural planning to the promotion of synergy among multiple disciplines (Ye & Niyogi, 2022). Organic research on social behavior under the challenge of climate crisis can create a better living environment and further promote sustainable social innovation (McBean & Ajibade, 2009).

2.3 Urban Catalysts

Catalysts are small amounts of a substance that contribute to a significant chemical reaction that operates effectively with little loss of the substance's original mass and properties. During a catalytic process, the object or environment influenced by the operating cycle is identified as the "Catalytic Effect" (Davis, 2009). Urban Catalysts (UC) means a series of mutually stimulating and harmonizing effects interactive with the city that enhance the quality of regional development without destroying the original environment and traditional culture (Attoe & Logan, 1989). The stimulating triggers of UC can be economic, such as attracting investment, and social, such as laws and regulations. UC should explore continuous and adaptive contributions to the renewal of the urban (Balvočienė & Zaleckis, 2020).

2.4 Citizen Participation

Modern public participation emerged in Europe in the 1960s when residents protested against large-scale urban demolition and the construction of massive highways, which brought public participation in urban projects to a peak, and was subsequently institutionalized (Rowe & Frewer, 2000). Civic Participation (CP) has gradually gained attention with the rise of community building. CP means individuals could enjoy their rights and responsibilities, which can be further understood as pursuing democratic ideals and egalitarian politics in a democratic society (Callahan, 2007). CP emphasizes that citizens have the right to be informed, question, suggest, reject, and take the initiative in formulating strategies. They have the opportunity to defend their legitimate interests and collaborate for their communities' prosperity and revitalization (Rosener, 1978).

3. The significance of adaptive urban acupuncture interventions in contemporary design and society

Adaptive urban acupuncture interventions are relevant to several contemporary design fields, including adaptive design, inclusive design, environmental design, service system design, and socially sustainable innovation. Adaptive and sustainable design is not limited to inanimate material resources such as land, water, transportation, or materials. Living beings are also social resources that deserve revitalization. If the entire city could be imagined as a living organism, then the residents suffering from the psychological stress of the COVID-19 pandemic are comparable to "infected sub-health cells." The public art installations, which are also dispersed across the city, have the potential to heal the community's emotions through "urban acupuncture." This also reflects the social dimensions relevant to this paper, including public mental health, resilient society, community engagement, and social emergency response.

4. Design principles for quickly interactive healing installations to alleviate the alienation

The central vision of the emotional healing installations is to establish connections between the community and the healing touchpoints to help more people in the post-COVID-19 era to relieve the alienated and move comfortably to a new normal life, which can be interpreted as which extent the environment influences the individual's emotional and social behavior. Based on this central vision, this paper proposed three research questions.

- How can public art installations have the potential to contain adaptive urban acupuncture interventions and relieve mental stress?
- How to attract more people to interact with emotional healing installations in their daily lives naturally and comfortably?
- How can public art installations become more than merely aesthetic considerations, become a touchpoint of communication and engagement across diverse populations, and promote further social innovation?

In answer to these three research questions, this paper summarizes the real-world bottlenecks and renewal potential of healing installations based on literature reviews and discovers three principles to support adaptable design.

4.1 Tapping the regeneration potential of leftover spaces in cities

Emotional healing installations can trap leftover spaces hidden in the city, such as spaces beneath viaducts, abandoned corners, under-utilized vacant lots, corner lots, etc., and insert emotional healing installations without impeding the neighborhood's movement. On the one hand, this will energize the surrounding environment. On the other hand, it will allow residents with mental illness to easily interact with emotional healing installations in their daily lives without visiting healing centers or parks.

4.2 Building bridges between the emotional healing installation and traditional culture and childhood memories

The city is a repository of history and memory, which contains unique vitality. Every renovation and reconstruction symbolizes that period's political, economic, and cultural evolution carrying several community members' cherished memories. Emotional healing installations can attempt to build bridges with the environment, traditional culture, and the surrounding community's childhood memories through various connections, such as color, shape, structure, interactive experiences, sound, and illumination effects. On the one hand, traditional culture and childhood games with a sense of familiarity can decrease the comprehensive threshold of the emotional healing installations so that the surrounding residents can understand and interact immediately. On the other hand, the interactive experience might evoke cherished childhood memories and achieve the central vision of emotional healing.

4.3 The organic blending of aesthetics at the appearance level, functioning at the experience level, and healing at the inclusive social level

Emotional healing installations can concentrate not only on the aesthetic and functional aspects but also on the creation of social atmospheres and the emotional healing of the community, through small and precise interventions in public spaces, while improving the life quality of residents, promoting an adaptive community atmosphere, foster a conducive civic participation mechanism, and encourage the growth of sustainable social innovation.

5. Design practice of quickly interactive healing installations

5.1 Discovering the leftover spaces in the target area

As shown in Figure 1, there are a series of leftover spaces exist on Chifeng Road. The author extracts elements based on the characteristics of the leftover spaces and their surroundings in order to establish connections between the shapes, structures, interactions, materials, and colors of the new emotional healing installations and the original leftover spaces.



Figure 1. Leftover spaces exist on Chifeng Road.

Source: the author.

5.2 Rocking dragon boat installation

The No.12 touchpoint is located in the middle of Chifeng Road, adjacent to the bus stop on Miyun Road. Behind the node is a large wall painting of a dragon boat racing. This useable area is 4 meters long and 2 meters wide, while the rocking dragon boat installation is 2.4 meters long and 1.5 meters wide. The wall painting shows one of the most significant and well-known traditional Chinese festivities: the Dragon Boat Festival. The shape of the emotional healing installation seeks inspiration from the dragon boat, but the structure is simplified to make the installation more compatible with a quick interactive play scenario. The color echoes the red graffiti on the side poles, and the basic platform is textured with a linear ripple to match the general atmosphere of the street. The interactive method of the rocking dragon boat installation encourages residents and tourists to stand on the dragon boat with their feet staggered and grab the paddle attached to the bottom platform with both hands. The dragon boat will swing while they are shaking their bodies.

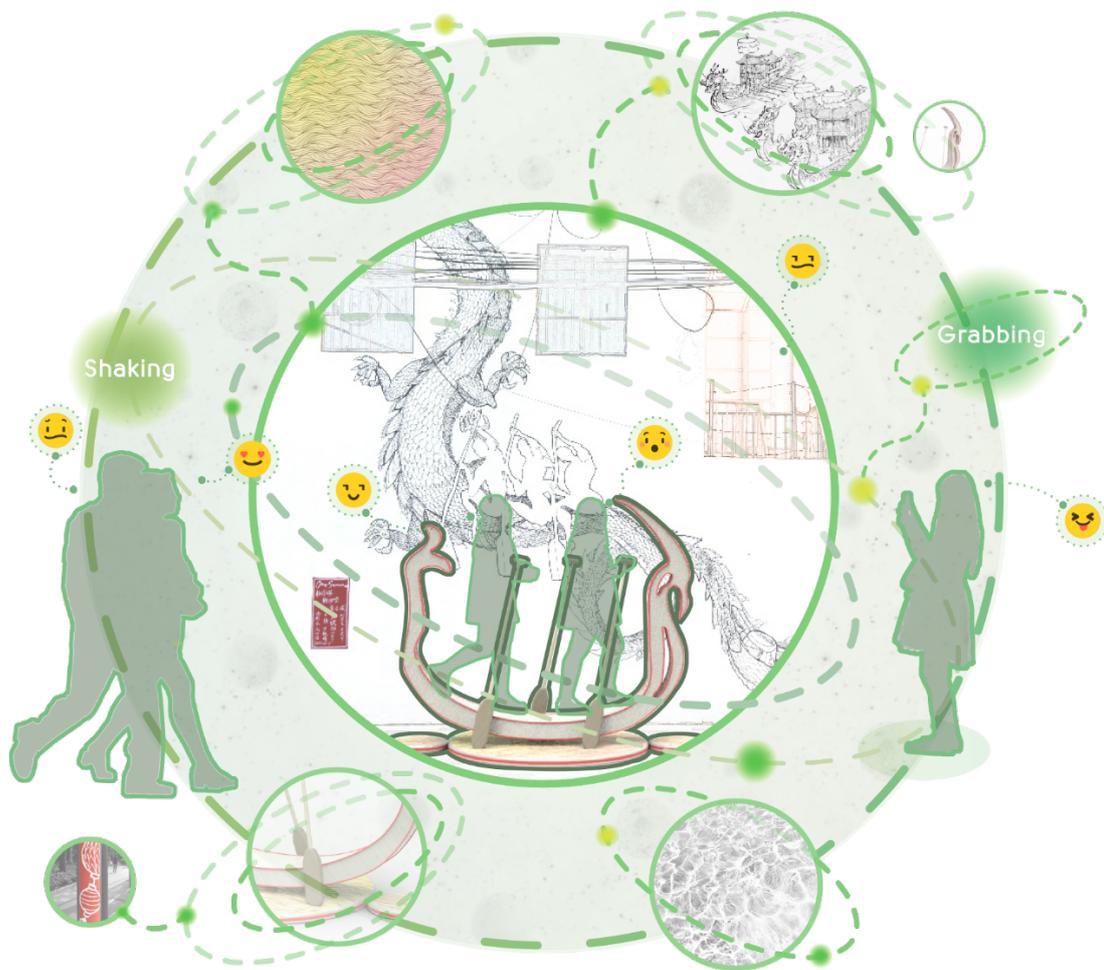


Figure 2. Rocking dragon boat installation.
Source: the author.

5.3 Lion dance ball tumbler installation

The No.17 touchpoint is located near the end of Chifeng Road. The useable area is 4.5 meters in length and 4.5 meters in width, while the Lion Dance Ball installation dimension is 3 meters in length and 3 meters in width. The structure of the installation was inspired by the ancient Chinese folk art of the lion dance, which is a symbol of the "New Year" that many local residents remember from their childhood. The emotional healing installation combines the experience of the lion dance ball jumping and tossing in the air with the game characteristics of the tumbler. The installation's appearance interacts with the red linear graffiti on the nearby poles, and the basic platform is textured with the auspicious clouds around the lion dance ball. The installation has three entrances, allowing residents to enter the ball from different directions, then they could hold the center ring railing while the ball sways.

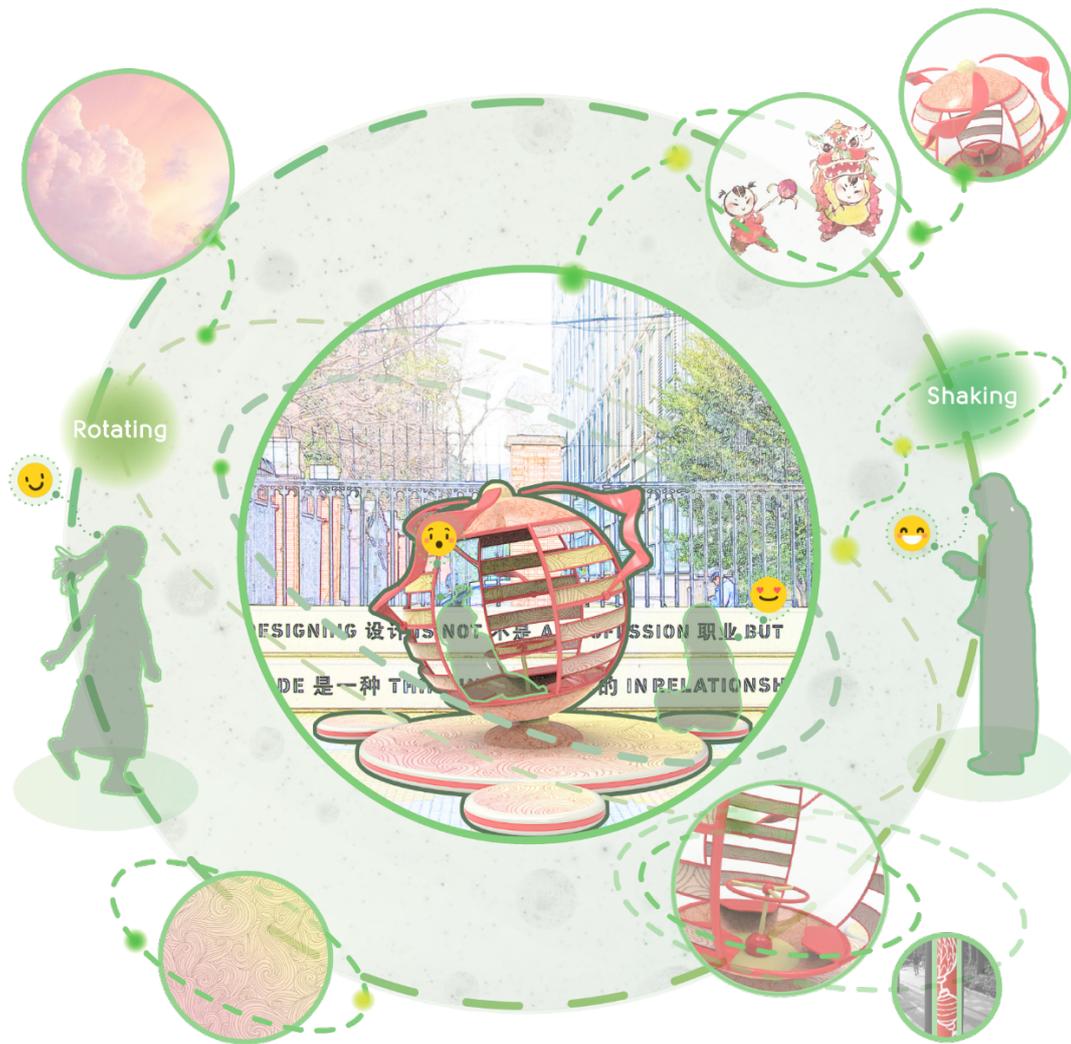


Figure 3. Lion dance ball tumbler installation.
Source: the author.

6. Conclusion

This paper combines several design fields, including public environmental, inclusive, and adaptive design. Which also relates them to the social areas such as public mental health, resilient society, community interaction, and social emergency response. Based on the analysis of the current bottlenecks and development potential, this paper proposes three design principles that can enhance the healing effects of quickly interactive healing installations in the post-COVID-19 era, which can be summarized as:

1. Tapping the regeneration potential of leftover spaces in cities.
2. Building bridges between the emotional healing installation, traditional culture, and childhood memories.
3. The organic blending of aesthetics at the appearance level, functioning at the experience level, and healing at the inclusive social level.

From a spatial perspective, the emotional healing installations have been able to release the potential of the underutilized locations in the city, operating as "catalysts" to bring vitality to

the surrounding community and foster sustainable urban development. From a social perspective, the emotional healing installations can alleviate the mental stress of residents in a subnormal state of psychological well-being without occupying their daily space, encourage them to participate in outdoor space interactions to heal the psychological alienation caused by the COVID-19 pandemic, assist them in better adjusting to the changes, and co-create a more adaptive, inclusive, compassionate, and sustainable society.

References

- Attoe, W., & Logan, D. (1989). *American urban architecture: Catalysts in the design of cities*. Univ of California Press.
- Balvočienė, V., & Zaleckis, K. (2020). Evaluation of urban catalysts through history. *Architecturae et Artibus*, 12(3).
- Callahan, K. (2007). Citizen participation: Models and methods. *International Journal of Public Administration*, 30(11), 1179–1196.
- Casagrande, M. (2012). *Biourban acupuncture. Treasure hill of Taipei to Ardena*. International Society of Biourbanism.
- Cénat, J. M., Blais-Rochette, C., Kokou-Kpolou, C. K., Noorishad, P.-G., Mukunzi, J. N., McIntee, S.-E., Dalexis, R. D., Goulet, M.-A., & Labelle, P. R. (2021). Prevalence of symptoms of depression, anxiety, insomnia, post-traumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry Research*, 295, 113599.
- Cinelli, M., Quattrocioni, W., Galeazzi, A., Valensise, C. M., Brugnoti, E., Schmidt, A. L., Zola, P., Zollo, F., & Scala, A. (2020). The COVID-19 social media infodemic. *Scientific Reports*, 10(1), 1–10.
- Davis, J. (2009). Urban catalysts in theory and practice. *Arq: Architectural Research Quarterly*, 13(3–4), 295–306.
- Doxiadis, C. A. (1970). Ekistics, the Science of Human Settlements: Ekistics starts with the premise that human settlements are susceptible of systematic investigation. *Science*, 170(3956), 393–404.
- González-Padilla, D. A., & Tortolero-Blanco, L. (2020). Social media influence in the COVID-19 pandemic. *International Braz j Urol*, 46, 120–124.
- Guo, M., Guo, J., Chen, B., Wei, R., Chen, X., & Zheng, S. (2021). Prevalence rate and related factors of anxiety among the public before and after outbreak of COVID-19. *Sichuan Mental Health*, 34(03), 262–266.
- Ho, J. (2017). Re-examing the relationship between urban renewal and everyday life through mapping workshop. *Landscape Architecture Frontiers*, 5(5), 52–58.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Mazza, M. G., De Lorenzo, R., Conte, C., Poletti, S., Vai, B., Bollettini, I., Melloni, E. M. T., Furlan, R., Ciceri, F., & Rovere-Querini, P. (2020). Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors. *Brain, Behavior, and Immunity*, 89, 594–600.
- McBean, G., & Ajibade, I. (2009). Climate change, related hazards and human settlements. *Current Opinion in Environmental Sustainability*, 1(2), 179–186.

- Petrova, M., Nenko, A., & Sukharev, K. (2016). Urban acupuncture 2.0: Urban management tool inspired by social media. *Proceedings of the International Conference on Electronic Governance and Open Society: Challenges in Eurasia*, 248–257.
- Rosener, J. B. (1978). Citizen participation: Can we measure its effectiveness? *Public Administration Review*, 457–463.
- Rowe, G., & Frewer, L. J. (2000). Public participation methods: A framework for evaluation. *Science, Technology, & Human Values*, 25(1), 3–29.
- Turner, A. I., Smyth, N., Hall, S. J., Torres, S. J., Hussein, M., Jayasinghe, S. U., Ball, K., & Clow, A. J. (2020). Psychological stress reactivity and future health and disease outcomes: A systematic review of prospective evidence. *Psychoneuroendocrinology*, 114, 104599.
- Weibelzahl, S., Reiter, J., & Duden, G. (2021). Depression and anxiety in healthcare professionals during the COVID-19 pandemic. *Epidemiology & Infection*, 149.
- Ye, X., & Niyogi, D. (2022). Resilience of human settlements to climate change needs the convergence of urban planning and urban climate science. *Computational Urban Science*, 2(1), 1–4.
- Zhang, Y., Zhu, L., Zhuang, K., Yang, Y., Zhang, L., Xu, Z., & Xia, R. (2021). Stress, anxiety, depression and relevant factors of health staff during COVID-19 epidemic period. *Modern Preventive Medicine*, 48(01), 38–43.