CULTURE AND RESILIENCE: AN INNOVATIVE APPROACH TO EVALUATE THE CULTURAL RESILIENCE OF THE CITIES THROUGH INDICATORS

DOI: 10.26341/issn.2241-4002-2024-1a-5-T02031

Eleni Linaki
Postdoctoral Researcher, National and Technical University of Athens, School of Architecture
eleni.linaki@gmail.com

Abstract
The initial idea for this postdoctoral research proposal starts from the concept of connecting resilience with culture, as a new measure of urban development and evaluation. The global effects of climate change such as rising temperatures, rising sea levels and extreme weather events have a major impact on cities and urban life, but also in historic places and monuments, due to their basic construction materials and their different urban planning.

Based on the above, the proposal concerns the connection of resilience, as a new parameter of the evaluation of the tangible and intangible cultural assets of cities, through the creation of a model for assessing the impact of cultural resilience in places. Considering that every city or historical place, traditional settlement the concept of cultural resilience constitutes a new methodology for the evaluation of the cities, most of which are under pressure or crisis of their system (economic, environmental, tourism, etc.).

The creation of a model for evaluating the cultural resilience of cities through the basic concepts and parameters of resilience (innovation, green city, open data, etc.) and culture, ensures their continuity in the future and their transfer from generation to generation. The proposed tool is structured by three initial parameters (resilience, culture, human) and creates a new multicriteria methodological tool, which can be applied in every place.

Key words: *cultural resilience, resilience, indicators, tangible and intangible culture*

Introduction

A growing body of literature provides resilience, through quantitative and qualitative methods of measurement. Resilience in sustainability terms, has recently become a notable aspect in cultural heritage and literature as a term encompasses resilience, while acknowledging multiple contexts such as vulnerability, tangible, and intangible assets etc. The notions of risk and resilience are increasingly relevant to cultural heritage. Despite this, no one—to the best of our knowledge—has suggested the simultaneous evaluation of the tangible and intangible cultural assets of a place, through a multicriteria system. Additionally, most studies tend to focus on the resilience of tangible cultural heritage, and only a few have been published on the resilience of the intangible cultural assets of the place. The protection of cultural heritage, and especially intangible cultural heritage, has emerged internationally in recent years, especially after the '2003 UNESCO Convention' about the "Definition of intangible heritage". A growing body of literature has examined culture as a parameter of risk management. Archaeological sites, monuments and historic places are widely perceived to be vulnerable as it has become is generally accepted that culture, both tangible and intangible needs to be conserved as an important asset for cultural resilience, reducing disaster risk, and inheriting cultural heritage in the future generations.

The framework of resilience and culture

The term of resilience developed from ecology in the 1960s and early 1970s to shed new light in ecological stability theory. Holling was the originator of this terminology and the current knowledge of the definitions of the basic concepts and principals of resilience and stability in ecological systems, as a new framework for the interpretation of the outcomes of ecological processes and heterogeneity of spatial scales. He introduced resilience as the capacity to persist within such a domain in the face of change and proposed that ‘‘resilience determines the persistence of relationships within a system and is a measure of the ability of these systems to absorb changes of state variables, driving variables, and parameters, and persist’’ (Holling, 1973). Additionally in 2010 he suggested that “Resilience maybe defined as the capability of a system or process to absorb disturbance (Folke et al, 2010)”. In 2004, Clauss-Ehlers defined “culturally focused resilient adaptation” as how culture and the sociocultural context influence resilient outcomes (Clauss-Ehlers, 2004). It involves the ability of a community to adapt and transform in response to challenges while preserving its cultural heritage (Kawharu et al., 2017).

As matter of the recent military battles, cultural heritage has been deliberately targeted for demolition, for example in Palmyra in Syria, in Gaza etc. Accordingly, both tangible and intangible cultural heritage has been extremely vulnerable and, in certain circumstances, even threatened with eradication. Archaeological finds, sites and monuments have thus become an important test case for the application of the concept of resilience to the realm of culture and cultural heritage (Holtorf,2018). Beginning with the theory that culture is much more than the legislation, the main conventions, and the declarations of a society, we claim that culture is an ongoing process that leaves significant traces without affecting the progress of communities and their futures. Cultural heritage is the inherited culture that communities tend to preserve to transfer knowledge to future generations. Culture is a completely expanded and tricky concept that is constantly being renewed and revised, and it incorporates new inputs of interpretation from mankind, art, folklore, and architecture, etc. (Linaki E., Serraos K.,2020).

In recent years, resilience has a major impact to many academic disciplines and sectors, related to disaster mitigation and management. The global effects of climate change such as rising temperatures, rising sea levels and extreme weather events, combine with the ever-increasing tourist numbers have a major impact on cities and urban life, but also in historic places and monuments, due to their basic construction materials and their different urban planning. Based on the above, the initial idea of this paper is the connection of resilience, as a new parameter of the evaluation of tangible and intangible cultural heritage of cities, through the creation of a conceptual model for assessing the impact of resilience in places.

Cultural resilience

As already mentioned, cultural resilience refers to the ability of a culture or community to adapt, recover, and thrive in the face of adversity or change (Comas-Díaz, 2006). It encompasses a range of strengths, values, and practices that promote coping mechanisms, functional coping strategies and adaptive reactions (Comas-Díaz, 2019). Resilience has a variety of factors, including biological, psychological, social, and cultural factors. The role of community in cultural resilience is also significant and meaningful, as resilience emphasizes the diversity of cultures and common structures, as well as socio-cultural and developmental influences on resilience (Walsh, 2016). Furthermore, cultural resilience is not limited to individuals or communities but also on an organizational level. In those terms resilience, is influenced by factors such as leadership, organizational culture, etc (Dong, 2023).

Additionally, research has shown that cultural resilience can be enhanced through maintaining cultural identity and religiosity (Fadhlia et al., 2022). It is important to note that resilience is not a universal concept and is strongly influenced by culture and context, as multiple cultures may have different and unique imprints and resilience-promoting mechanisms (Noltemeyer & Bush, 2013). In conclusion, understanding the different cultural contexts is essential for promoting resilience, as cultural resilience is a multidimensional concept that requires a holistic understanding of various factors, including cultural influences (Fletcher & Sarkar, 2013).

Cultural factors and cultural resilience indicators

Cultural factors are significant, as they explain the different manifestations and definitions of resilience. It is important to note that the measurement of resilience can vary across cultures, and there is a need for culturally sensitive measures (Terrana & Al-Delaimy, 2023). Resilience is not necessarily comparable across cultures, as different populations may have different understandings and practices of resilience (Windle et al., 2011). Assessments of resilience should consider cultural factors that contextualize how resilience is defined and manifested in different populations (Fletcher & Sarkar, 2013). As mentioned above, the concept of resilience has been applied resilience has been studied in various fields, such as medicine and geography. In the field of psychology the resilience refers to emotional intelligence, perceived stress, and psychological trauma (Sarrionandia et al., 2018) and in the context of the COVID-19 pandemic. In geography, resilience has been examined in terms of territorial resilience, urban resilience, and cultural landscapes (Brunetta et al., 2019) but also in indigenous and heritage communities (Fabbricatti et al., 2020).

Assessments of resilience often consider factors. Cultural resilience can be measured using indicators that capture individual assets, environmental resources, and cultural factors. Cultural factors also have a role in the resilience of businessman, with different strategies based on cultural identity and conceptions of risk (Liu, 2019). Creating indexes for cultural resilience requires a comprehensive understanding of the factors that contribute to cultural resilience and the development of appropriate measurement tools. Similarly, the resilience of safety culture in construction industries can be evaluated using indexes such as competency, involvement of staff, and just culture (Trinh & Feng, 2022), as the resilience of safety in cultural organizations can also be evaluated using cultural indicators. These indicators provide a framework for assessing and enhancing the resilience of organizations, which can contribute to the overall resilience of cultural systems. Organizational culture and leadership have been identified as middle and deep influencing factor, as staff training and support systems are also crucial for building organizational resilience (Dong, 2023). It is important to note that resilience is influenced by a range of factors, including biological, psychological, social, and cultural factors (Barratt, 2018). The Resilient Organizations and the Ministry of Civil Defense and Emergency Management in New Zealand developed an organizational resilience assessment tool consisting of 13 indicators, including leadership and culture, networks, and change (Rahi, 2019).

The role of cultural factors in resilience is further supported by studies that highlight the importance of social relationships especially in non-Western cultures (Abukari, 2018). In the context of indigenous communities, instruments have been developed to measure cultural resilience, which includes individual assets, environmental resources, and cultural factors (Jongen et al., 2019). Additionally, the resilience index of a watershed has been developed by combining social, ecological, infrastructural, economic, and cultural criteria (Farzi et al., 2022).

The cultural context, including culturally related goals and access to resources, is central to understanding individual-level resilience (Love et al., 2022). As for family and community indexes such as family support, peer support, and community resources contribute to resilience (Woods-Jaeger et al., 2020). Cultural identity and religiosity have been identified as protective factors promoting resilience (Fadhlia et al., 2022; Liu, 2019). Additionally, collective family/kinship values, future orientation, and social support systems have been identified as protective factors that support resilience among youth (Abukari, 2018). The socio-cultural context is another important domain that influences cultural resilience.

One important aspect of cultural resilience is the connection to cultural identity and heritage. Research has shown that strong cultural connection, cultural identity, and knowledge of cultural heritage and practices are considered important sources of resilience and well-being (Jongen et al., 2020). However, there is a question about the effectiveness of these strategies, as cultural heritage has often been seen as a static concept rooted in the World Heritage Convention (Dastgerdi et al., 2019). UNESCO and its advisory bodies have recognized the need for climate-resilience strategies for cultural heritage. This highlights the need for dynamic and adaptive approaches to ensure the resilience of cultural heritage in the face of climate change. The UNESCO Framework for Cultural Statistics and the development of cultural indicators by countries like Australia highlight the growing recognition of the importance of cultural indicators in assessing and promoting cultural resilience (Hong, 2014). These indicators consider various dimensions, including cultural identity, organizational resilience, climate change adaptation, agroecosystem resilience, and psychological and social factors. By incorporating these indicators into resilience assessment and planning, stakeholders can better address and understand the important challenges and unique strengths of cultural systems.

Difficulties and limitations in measuring cultural resilience

Difficulties and limitations in measuring cultural resilience can arise from a variety of challenges and lacks. Resilience can be a complex and multifaceted concept, encompassing social, cultural and individual dimensions (Robinson et al., 2022). One challenge is the lack of standardized and universally accepted definitions and conceptual frameworks for resilience (Southwick et al., 2014). Different researchers may have different interpretations of resilience This aspect make a difficulty in order to compare and generalize findings across studies (Ungar & Liebenberg, 2011). As is already mentioned, resilience is influenced by mixed cultures, values, beliefs and practices and different cultural contexts. This means that the development of a new method for measuring cultural resilience may not be appropriate for use in different cultural populations (Handoyo et al., 2021). Measuring cultural resilience also requires the inclusion of various components and factors that contribute to resilience, such as individual assets, environmental resources, and cultural factors (Jongen et al., 2019). Resilience measures may not fully capture the social, cultural, and political factors that influence resilience outcomes (Matin et al., 2018).

Furthermore, cultural resilience may be influenced by historical and contextual factors, which can be difficult to capture and measure accurately. However, identifying and operationalizing these components can be challenging. Measuring cultural resilience presents several challenges due to the lack of validated measures for specific populations and measurement complexities of resilience. Additionally, qualitative research is needed to determine the applicability of current resilience measures and to provide guidance for improving those measures to be culturally tailored (Bernacchi et al., 2021).

Conceptual and methodological challenges, such as obtaining reliable and meaningful data, can hinder the measurement of resilience (Ricciardelli et al., 2018). Nonetheless,

researchers have made efforts to develop culturally and contextually relevant measures of resilience, such as the CYRM-28, which consider cultural factors and have been validated for use with diverse populations. Additionally, cultural resilience measurement has its limitations, as the development of such a measure requires collaboration among international investigators and consideration of cultural and individual influences (Ungar & Liebenberg, 2011). Additionally, the use of existing resilience measures may not capture the full range of cultural factors that influence resilience (Ricciardelli et al., 2018). This highlights the need for a more comprehensive understanding of resilience with culturally tailored resilience measures. The limitations of cultural resilience measurement include the challenges of culturally relevant measures and the need for measures that capture a total range of cultural factors. Future research should focus on developing culturally tailored indexes and more cultural, social and political factors that influence resilience outcomes.

Accessing a new multicriteria method of measuring cultural resilience

The measurement of cultural resilience in places requires a comprehensive and multidimensional approach. Several studies have developed frameworks and methodologies to assess resilience in different contexts, including the cultural resilience. By considering multiple dimensions and cultural factors, this approach can provide a comprehensive understanding of the resilience of a place and inform strategies for enhancing cultural resilience. Many measurement tools and models have been applied including a range of cultural factors as part of the assessment and the comprehensive understanding of cultural resilience in a specific place. A notable aspect is the development and validation of cultural resilience across multiple cultures which can provide insights into cultural resilience in specific populations. Furthermore, studies have identified culturally grounded indicators of resilience that can be used to assess the resilience of different systems. Overall, a multicriteria approach that combines tools, frameworks, and cultural indicators can be used to measure cultural resilience in places.

Multi-criteria decision-making methods, such as the Multi-Attribute Utility Theory (MAUT), have been widely used in various fields. It is a useful method for formulating, explaining and solving decision-making problems (Imren et al., 2021). MAUT is a branch of multi-criteria decision analysis (MCDA) that involves modeling utility functions with multiple attribute outcomes and determining the best choice among different options (Zhao, 2018). MAUT method has been applied in the evaluation of cultural and creative design solutions (Shen, 2022). The MAUT method involves assigning weights to different criteria and evaluating alternatives based on these criteria. It allows decision-makers to consider multiple factors in the decision-making process (Triantaphyllou, 2000). In summary, multi-criteria decision-making methods, such as MAUT, provide a systematic approach for decision-makers to evaluate alternatives based on multiple criteria. MAUT has been applied in various fields. While the method has limitations, it remains a comprehensive and valuable tool in decision-making processes.

Conclusion

In the following steps of the research, the focus will be on exploring how multicriteria methods, such as Multi-Attribute Utility Theory (MAUT), can be utilized to measure cultural resilience. The objective of this research is to propose a new multicriteria evaluation approach based on a decision-making method. The aim is to establish a connection between cultural resilience and multicriteria decision-making methods. The fundamental principle underlying this research is the evaluation of the cultural resilience of a particular place. To achieve this,

the research will introduce a novel scientific tool that initially assesses cultural resilience through the application of both quantitative and qualitative criteria. The methodology employed in this research involves the development of a set of qualitative and quantitative criteria, encompassing various parameters such as environment, technology, heritage, vulnerability, and more.

References

Abukari, Z. (2018). "not giving up": ghanaian students' perspectives on resilience, risk, and academic achievement. Sage Open, 8(4), 215824401882037. https://doi.org/10.1177/2158244018820378

Barratt, C. (2018). Developing resilience: the role of nurses, healthcare teams and organisations. Nursing Standard, 33(7), 43-49. https://doi.org/10.7748/ns.2018.e11231

Clauss-Ehlers, C. S. (2004). Re-inventing resilience: A model of "culturally-focused resilient adaptation." In C. S. Clauss-Ehlers & M. D. Weist (Eds.), Community planning to foster resilience in children (pp. 27–41). New York, NY: Kluwer Academic.

Comas-Díaz, L. (2019). Latina adolescent girls at the cultural borderlands.., 155-187. https://doi.org/10.1037/0000140-006 Comas-Díaz, L. (2006). Latino healing: the integration of ethnic psychology into psychotherapy.. Psychotherapy, 43(4), 436-453. https://doi.org/10.1037/0033-3204.43.4.436

Dastgerdi, A., Sargolini, M., & Pierantoni, I. (2019). Climate change challenges to existing cultural heritage policy. Sustainability, 11(19), 5227. https://doi.org/10.3390/su11195227

Dong, B. (2023). A systematic review of the organizational resilience literature and future outlook. Frontiers in Business Economics and Management, 8(3), 86-89. https://doi.org/10.54097/fbem.v8i3.7728

Folke,C., S.R.Carpenter, B.Walker, M.Scheffer, T.Chapin,and J.Rockström.2010. "Resilience Thinking: Integrating Resilience, Adaptability and Transformability. "Ecology and Society15(4).online.Accessed 8 April2018. http://www.ecologyandsociety.org/vol15/iss4/art20/

Handoyo, N., Rahayu, G., Claramita, M., Keraf, M., Octrisdey, K., Yuniarti, K., … & Schuwirth, L. (2021). Developing personal resilience questionnaire for rural doctors: an indigenous approach study in indonesia. BMC Psychology, 9(1). https://doi.org/10.1186/s40359-021-00666-8

Holling, C.S., Chambers, A.D., 1973. Resource science: the nurture of an infant. BioScience 23, 13–20.

Holtorf C. (2018) Embracing change: how cultural resilience is increased through cultural heritage, World Archaeology, 50:4, 639-650, DOI: 10.1080/00438243.2018.1510340

Imren, E., Kurt, R., Yücedağ, C., Bilir, N., Özel, H., Cetin, M., … & Sevik, H. (2021). Selection of superior clones by the multi-dimensional decision-making techniques in scots pine seed orchard. Journal of Forests, 8(1), 13-22. https://doi.org/10.18488/journal.101.2021.81.13.22

Jongen, C., Langham, E., Bainbridge, R., & McCalman, J. (2019). Instruments for measuring the resilience of indigenous adolescents: an exploratory review. Frontiers in Public Health, 7. https://doi.org/10.3389/fpubh.2019.00194

Jongen, C., Langham, E., Bainbridge, R., & McCalman, J. (2019). Instruments for measuring the resilience of indigenous adolescents: an exploratory review. Frontiers in Public Health, 7. https://doi.org/10.3389/fpubh.2019.00194

Jongen, C., McCalman, J., & Bainbridge, R. (2020). A systematic scoping review of the resilience intervention literature for indigenous adolescents in canzus nations. Frontiers in Public Health, 7. https://doi.org/10.3389/fpubh.2019.00351

Kawharu, M., Tapsell, P., & Woods, C. (2017). Indigenous entrepreneurship in aotearoa new zealand. Journal of Enterprising Communities People and Places in the Global Economy, 11(1), 20-38. https://doi.org/10.1108/jec-01-2015-0010

Linaki, E.; Serraos, K. Recording and Evaluating the Tangible and Intangible Cultural Assets of a Place through a Multicriteria Decision-Making System. Heritage 2020, 3, 1483-1495. https://doi.org/10.3390/heritage3040082

Matin, N., Forrester, J., & Ensor, J. (2018). What is equitable resilience?. World Development, 109, 197-205. https://doi.org/10.1016/j.worlddev.2018.04.020

Rahi, K. (2019). Indicators to assess organizational resilience – a review of empirical literature. International Journal of Disaster Resilience in the Built Environment, 10(2/3), 85-98. https://doi.org/10.1108/ijdrbe-11-2018-0046

Ricciardelli, A., Manfredi, F., & Antonicelli, M. (2018). Impacts for implementing sdgs: sustainable collaborative communities after disasters. the city of macerata at the aftermath of the earthquake. Corporate Governance, 18(4), 594-623. https://doi.org/10.1108/cg-01-2018-0027

Robinson, G., Lee, E., Leckning, B., Silburn, S., Nagel, T., & Midford, R. (2022). Validity and reliability of resiliency measures trialled for the evaluation of a preventative resilience-promoting social-emotional curriculum for remote aboriginal school students. Plos One, 17(1), e0262406. https://doi.org/10.1371/journal.pone.0262406

Southwick, S., Bonanno, G., Masten, A., Panter-Brick, C., & Yehuda, R. (2014). Resilience definitions, theory, and challenges: interdisciplinary perspectives. European Journal of Psychotraumatology, 5(1). https://doi.org/10.3402/ejpt.v5.25338

Triantaphyllou, E. (2000). Multi-criteria decision making methods: a comparative study.. https://doi.org/10.1007/978-1-4757-3157-6

Ungar, M. and Liebenberg, L. (2011). Assessing resilience across cultures using mixed methods: construction of the child and youth resilience measure. Journal of Mixed Methods Research, 5(2), 126-149. https://doi.org/10.1177/1558689811400607

Walsh, F. (2016). Applying a family resilience framework in training, practice, and research: mastering the art of the possible. Family Process, 55(4), 616-632. https://doi.org/10.1111/famp.12260