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Tourism is Under Pressure: Effects of Media Perception and Natural Disasters on Palandöken Ski Resort

Turizm Baskı Altında: Medya Algısının ve Doğal Afetlerin Palandöken Kayak Merkezi Üzerindeki Etkileri

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ABSTRACT
The paper explores the interconnectedness of geography, tourism, and technology through the lens of Palandöken Ski Center during the winter of 2023. Key findings highlight the center's reliance on geographical conditions like snow depth and slope quality, with recent climate shifts reducing snow reliability. Technological interventions, including artificial snow systems, have partially mitigated these challenges by ensuring earlier starts to ski seasons despite adverse weather conditions. Additionally, the study examines the impact of the February 2023 Kahramanmaraş-centered earthquakes on tourism. Although Palandöken was not physically affected, negative media portrayals caused a significant drop in visitor numbers, highlighting the vulnerability of tourism to external crises. The study employed a mixed-method approach, using climate data, tourist statistics, and interviews to analyze these impacts. The findings emphasize the importance of integrating disaster risk reduction and resilience strategies into tourism planning. While investments in technology help manage climate-related issues, the sector's sensitivity to crises underscores the need for comprehensive crisis management systems to sustain tourism in challenging times.

Keywords: Tourism, geography, Palandöken, ski centers, earthquake

ÖZ
Bu çalışma, coğrafya, turizm ve teknolojinin birbirleriyle bağlantısını 2023 kışında Palandöken Kayak Merkezi üzerinden incelemektedir. Temel bulgular, merkezin kar kalınlığı ve eğim kalitesi gibi coğrafi koşullara olan bağımlılığını vurgulamakta olup, son dönemdeki iklim değişikliklerinin kar güvenilirliğini azalttığını göstermektedir. Yapay kar sistemleri gibi teknolojik müdahaleler, olumsuz hava koşullarına rağmen kayak sezonlarının daha erken başlamasını sağlayarak bu zorlukları kısmen hafifletmiştir. Ayrıca çalışma, Şubat 2023 Kahramanmaraş merkezli depremlerin turizme etkisini de incelemektedir. Palandöken fiziksel olarak etkilenmemiş olsa da olumsuz medya yansımaları ziyaretçi sayısında önemli bir düşüşe neden olmuş ve turizmin dış krizlere karşı kırılganlığını ortaya koymuştur. Çalışmada bu etkileri analiz etmek için iklim verileri, turist istatistikleri ve görüşmeler kullanılarak karma yöntem yaklaşımı benimsenmiştir. Bulgular, afet risk azaltımı ve dayanıklılık stratejilerinin turizm planlamasına entegre edilmesinin önemini vurgulamaktadır. İklimle ilgili sorunları yönetmede teknolojiye yapılan yatırımlar yardımcı olsa da sektörün krizlere olan hassasiyeti, sürdürülebilir bir turizm için kapsamlı kriz yönetim sistemlerine duyulan ihtiyacı ortaya koymaktadır.

Anahtar Kelimeler: Turizm, coğrafya, Palandöken, kayak merkezleri, deprem

Introduction

Touristic activities, often associated with the sea, sand, and sun due to summer vacations, are also widely observed during other seasons. Unlike the longer vacations of the summer season, shorter winter breaks have led to significant investments despite their time disadvantage. Considering that winter tourism activities generally align with climatic conditions and that the Northern Hemisphere hosts the largest population groups in the world, it can be said that mid-season vacations hold substantial potential.

When considering activities carried out during the winter season, the prominence of snow-dependent activities becomes evident. Winter tourism activities can take place in many areas under certain winter conditions. As is widely known, skiing is undoubtedly the most significant activity of the winter season. Similar to sea-sand-sun tourism, ski tourism is directly influenced by geographical conditions. With the exception of the indoor-artificial ski facility in Dubai, Shanghai, New Jersey, it is challenging to identify other tourism activities worldwide that are so heavily reliant on natural environmental conditions.

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When evaluated from a deterministic perspective, winter tourism centers are highly dependent on local geographical conditions. Numerous definitions and explanations have been made to determine these geographical requirements. Key factors include the necessity of a specific slope, the duration snow remains on the ground, and the absence of avalanche risks.

For winter tourism to be sustainable, snow must reliably maintain a certain thickness and duration. In low-altitude areas where this condition cannot be met, climate change can lead to a reduction in snow cover, resulting in increased snow production costs. While snow reliability can be ensured in high-altitude regions such as the Swiss Alps, achieving this in lower-altitude areas proves to be much more challenging (Koenig & Abegg, 1997). Furthermore, it is well known that in today's world, where the effects of global warming are intensifying, snowfall has become increasingly less reliable (Gössling & Scott, 2025).

Altitude directly influences snow depth and the duration it remains on the ground. For ski resorts, high altitude and suitable slopes are particularly essential. For instance, a study conducted in Iran's Isfahan province demonstrated that areas with high altitude and appropriate slopes were identified using GIS (Geographic Information Systems) (Gabdrakhmanov & Hosseini, 2019).

Doğanay has outlined specific natural and human criteria as minimum requirements for the establishment of a winter tourism center. These criteria include snow cover remaining on the ground for at least two months, snow depth exceeding 50 cm, the absence of avalanche risks, adequate slope conditions, ease of accessibility, a nearby population to generate demand, and the presence of accommodation facilities (Doğanay & Zaman, 2016, p. 76). In addition, natural snow fall covers about 41% of the importance for the ski slopes (Steiger et al., 2022). When these conditions are met in a location, the potential for it to become a winter tourism center is established.

Palandöken Ski Center is a significant tourist destination that meets the previously outlined criteria for a winter tourism center. The ski resort is conveniently located just five km from the city center. In 2011, The New York Times included Palandöken Ski Center in its list of “The 41 Places to Go in 2011,” and emphasized that it is only 16 km away from the nearest airport (Times, 2011).

When evaluating the geomorphological features of the mountain, it is known to have formed as a result of the collision between the African, Arabian, and Eurasian tectonic plates (Kürüm & Nas, 2020). Additionally, the foundation of the mountain was formed through the spread of basic lavas from the seabed during the Mesozoic Era (Atalay & Mortan, 2017, p. 457). As a result of this process, the predominantly volcanic-origin mountains have risen around the subsiding plain (Arınç, 2016, p. 112).

When evaluating Palandöken Mountain in terms of ski slopes and mechanical facilities, the mountain features 30 easy, 12 intermediate, 9 professional, and 5 natural slopes. Significant investments have been made in the lift systems at Palandöken, with 19 lifts capable of transporting 24,000 people per hour. Additionally, the artificial snow systems can produce 2,400 m³ of snow per hour (Palandöken Ski Center). Thanks to this investment, Palandöken Ski Center’s reliance on natural conditions has been reduced, particularly during disadvantageous climatic periods. The snow-making systems are operated to prevent the initial snowfall of the season from being blown away or melting.

Method

The purpose of this study, which examines the impact of climate and environmental factors on tourism at Palandöken Ski Center, is to understand the effects of adverse climatic conditions and events such as the Kahramanmaraş-centered earthquake during the 2023 winter season on the ski center. The study aims to analyze the economic and social vulnerabilities caused by natural disasters and climate change-induced seasonal shifts at Palandöken Ski Center.

This study utilized both qualitative and quantitative data collection methods. Quantitative data include numerical climate data, changes in snow depth over the years from Turkish State Meteorological Service, and fluctuations in tourist numbers by year from Ministry of Culture and Tourism of the Republic of Türkiye. In addition, qualitative data were obtained through interviews conducted with ski center managers from five different hotels. Numerical snow depth data were presented in comparison with previous years, and changes in hotel occupancy rates were examined. Furthermore, the interviews with five managers provided in-depth insights into topics such as the ski season and tourist perceptions following the earthquake.

Accordingly, the study employed a mixed research method, combining both quantitative and qualitative data analysis. This approach provides a comprehensive analysis by evaluating climatic and social impacts together to better understand changes in the tourism sector.

In line with this purpose and methodology, the following hypothesis has been formulated: Adverse climatic conditions in terms of winter tourism and the media coverage of the earthquake centered in Kahramanmaraş delay the start of the winter tourism season at Palandöken Ski Resort, negatively affecting tourist perception and leading to a decline in tourism revenues.

Results

Tourism Fragility in the Context of the Relationship Between Technology, Climate, Earthquake and Tourism

Tourism fragility is a complex and multifaceted issue influenced by economic, social, environmental, and political factors. A significant dimension of tourism vulnerability is its economic aspect, particularly in relation to less developed countries. Research suggests that international tourism can reduce economic vulnerability; however, this benefit occurs once a certain threshold of GDP per capita is reached. For countries that have not yet reached this level, it may be more prudent to

prioritize the development of other industries before focusing on international tourism as an economic stability strategy (Wang et al., 2022).

Tourism destinations are particularly vulnerable to natural disasters and crises. Even short-term disruptions in tourist arrivals can have a profound impact on the local economy, highlighting the vulnerability of the tourism sector. This vulnerability is further exacerbated in small island destinations where there is a high economic dependence on tourism, and the situation is made worse by inadequate disaster preparedness in the private sector (Becken et al., 2014). Therefore, tourism development strategies should incorporate approaches for disaster risk reduction and resilience building.

Similarly, during periods with favorable climatic conditions, governments must implement mitigating factors against such risks. One of these factors is the use of artificial snow machines when climatic conditions are not favorable. On the other hand, winter tourism areas can cause some other disturbances. For example, a study in Serbia states that erosion, soil loss, soil, water, air, noise, and light pollution etc. can be other risks to winter tourism (Ćurčić et al., 2019).

Tourism vulnerability is also highlighted by its sensitivity to social tensions and infrastructure deficiencies. For instance, 'overtourism' can lead to social friction between tourists and residents, and the lack of sufficient infrastructure to support visitor flows can exacerbate this issue. This phenomenon, sometimes referred to as “tourism phobia,” is seen as a response that also encompasses the spatial changes that emerge alongside tourism development (Konstantina et al., 2019).

Tourism vulnerability can also be significantly influenced by unrealistic news articles resulting from negative events. This situation mostly called “media framing” causing distorted understandings of safety levels at destinations, contributes to negative impacts (Kapuściński & Richards, 2016). Negative news, including sensationalized or even false reports, can affect consumer decisions by distorting reality and diminishing the appeal of tourist destinations. For example, Anton et al. (2020) underscore how misinformation in the tourism industry can lead to severe economic repercussions, as tourists may decide to avoid destinations due to perceived risks or issues, even if those concerns are exaggerated.

Negative media reports about natural disasters or political instability can cause tourists to reconsider their travel plans. Research on Turkish tourism found that online news from foreign sources had a significant influence on reducing tourist arrivals to Türkiye, highlighting the broad impact of negative media on the tourism sector (Kutlu et al., 2018).

Besides negative news, when evaluated from a climatic perspective, there is a possibility for over 150 days of skiing at Palandöken Ski Resort. The snow cover thickness reaches up to two meters, and the ski season, which begins in November, has been observed to extend until June in some years (Doğanay & Zaman, 2016, p. 139).

However, when the data in Table 1 is examined, it will be evident that the 2022 winter season started quite late. Analyzing the winter months of 2022 and 2023 reveals a decrease of more than 50% in the maximum snow depth compared to previous periods (Table 1). The necessity of snow cover for winter sports has placed tourism operators in a difficult situation. In discussions with hotel managers at Palandöken Ski Resort regarding this issue, it has been understood that in recent years, the start of the ski season has been delayed until January.

Table 1
Monthly Maximum Snow Height of Palandöken Ski Center- cm, (Service, 2024)

Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2016	73.0	81.0	106.0	106.0	10.0	-	-	-	-	8.0	18.0	91.0
2017	78.0	70.0	92.0	94.0	18.0	-	-	-	-	4.0	29.0	41.0
2018	213.0	0.0	0.0	0.0	0.0	-	-	-	-	0.0	0.0	34.0
2019	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	22.0	81.0
2022	125.0	137.0	130.0	177.0	45.0	-	-	-	-	0.0	17.0	30.0
2023	45.0	52.0	37.0	192.0	-	-	-	-	-	-	97.0	120.0
2024	147.0	-	180.0	162.0	39.0	-	-	-	-	-	-	-

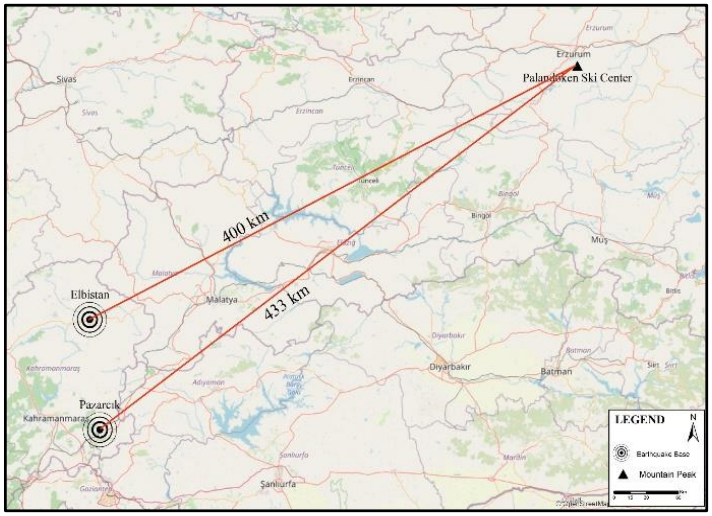
In situations where climatic conditions are not favorable, technology plays a crucial role. The snow machines at Palandöken Ski Resort have successfully brought the tourism season, which was expected to start late, to earlier dates by drawing water from artificial lakes created at various points on the mountain. The use of technology in the tourism sector can be exemplified by the snow machines at Palandöken Ski Resort, which have helped prevent potential financial losses. In addition to the seasonal delay caused by the climatic data of 2023, other events after February also had negative impacts on the resort.

Tourism vulnerability is also closely related to issues such as wars or natural disasters. On February 6, 2023, earthquakes measuring 7.7 and 7.6 on the Richter scale occurred, with the epicenter in Pazarcık, Kahramanmaraş, affecting surrounding provinces as well (AFAD, 2023). The number of people affected by the earthquake exceeds 14 million (The Presidency of the Republic of Türkiye Presidency of Strategy and Budget - Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023, p. 6). The earthquake, in which more than 53,000 people lost their lives, has been referred to as the disaster of the century nationwide (Türkiye's Power of Unity and Solidarity Was Tested by Earthquake, Disaster of the Century Turned into Solidarity of the Century! – “Türkiye'nin Birlik ve Dayanışma Gücü Depremle Sınandı, Asrın Felaketi Asrın Dayanışmasına Dönüştü!”, 2024).

The epicenter of the earthquake in Pazarcık is located 433 km away from Palandöken Ski Resort. The epicenter of the Elbistan earthquake is approximately 400 km from Palandöken Ski Resort (Figure 1). Even though the earthquake was barely felt in Palandöken Ski Resort and its surrounding areas, and no adverse conditions were reported, an extremely negative picture has emerged from a tourism sector perspective.

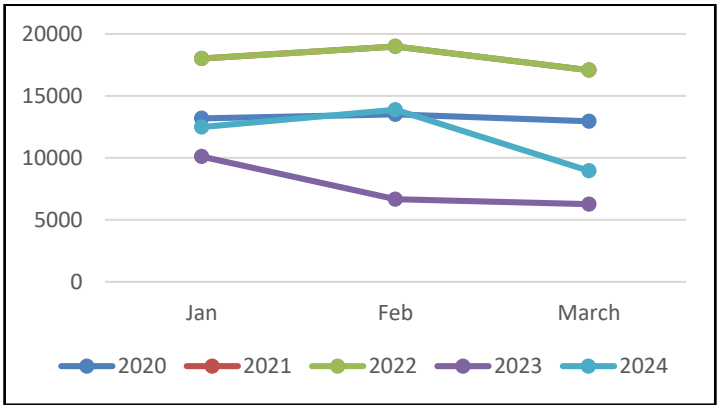
An examination of international news agencies' reports suggests that headlines such as 'An earthquake occurred in Türkiye' may leave a negative impression, as if the earthquake affected the entire country (BBC, 2023; The Moscow Times, 2023; The New York Times, 2023). Indeed, in field studies and interviews, hotel managers have specifically pointed out this situation.

Figure 1
Average Distances from Earthquake Bases to Palandöken Ski Center.



The negative impacts mentioned by hotel managers due to the aforementioned earthquake are also reflected in the accommodation data obtained from the Ministry of Culture and Tourism of the Republic of Türkiye. When the occupancy rates for February are examined, it is clear that February and March of 2023 were affected by the earthquake. The total number of visitors in February was 13,503 in 2021, 18,985 in 2022, but in February 2023, the month of the earthquake, it dropped to 6,659. The data for the same month in 2024 show 13,883 visitors (Figure 2).

Figure 2
*Total Visitors in Palandöken Ski Center (*Republic of Türkiye Ministry of Culture and Tourism - T.C. Kültür ve Turizm Bakanlığı. *2024).*



Discussion and Conclusion

Although the data show that the epicenter of the earthquake was far from Palandöken Ski Resort, they still indicate a negative impact. In this regard, the data obtained supports the hypothesis of the research.

The unfavorable weather conditions experienced in 2023 at Palandöken Ski Resort for winter tourism, along with the earthquakes that occurred in February, clearly highlighted the vulnerability of tourism to external factors. Natural disasters, such as earthquakes, may not directly affect tourist destinations; however, the crisis perception created by news spread through the media, presenting the situation as a nationwide disaster, led to a significant decline in tourist arrivals. In February 2023, hotel occupancy rates at Palandöken dropped noticeably compared to previous years due to the earthquake, resulting in significant losses in tourism revenue.

Additionally, delays in the start of the ski season due to climate change make winter tourism economically vulnerable. While technological investments, such as artificial snow machines, have somewhat alleviated climate-related issues, the low snow depths at the start of the season have increased risks in the sector. This situation demonstrates the fragility of tourism, influenced by natural disasters, climate changes, and the negative news spread through the media.

These findings highlight the importance of winter tourism destinations to invest not only in infrastructure and technology, but also in crisis management and risk reduction strategies. To counter media framing, all touristic facilities should learn how to show their touristic place safe to travel. This can include agreements with the advertisement companies to avoid such crisis.

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References

AFAD. (2023). *06 Şubat 2023 Kahramanmaraş (Pazarcık ve Elbistan) depremleri saha çalışmaları ön değerlendirme raporu*. AFAD Deprem Dairesi Başkanlığı. AFAD. Retrieved from https://deprem.afad.gov.tr/assets/pdf/Arazi_Onrapor_28022023_surum1_revize.pdf

Anton, E., Teodorescu, C. A., & Vargas, V. M. (2020). Perspectives and reviews in the use of narrative strategies for communicating fake news in the tourism industry. *Proceedings of the International Conference on Business Excellence, 14*(1), 728-734. https://doi.org/10.2478/picbe-2020-0069

Arınç, K. (2016). *Doğal, beşeri, iktisadi ve siyasal yönleriyle Doğu ve Güneydoğu Anadolu bölgeleri*. Biyosfer Araştırmaları Merkezi.

Atalay, İ., & Mortan, K. (2017). *Türkiye bölgesel coğrafyası* (7. ed.). İnkılap Yayınevi.

BBC. (2023, February 8). Turkey earthquake: Before and after pictures show extent of destruction. Retrieved November 11, 2024, from BBC: Turkey earthquake: Before and after pictures show extent of destruction.

Becken, S., Mahon, R., Rennie, H. G., & Shakeela, A. (2014). The tourism disaster vulnerability framework: An application to tourism in small island destinations. *Natural Hazards, 71,* 955-972. https://doi.org/10.1007/s11069-013-0946-x

Ćurčić, N. B., Milinčić, U. V., Stranjančević, A., & Milinčić, M. A. (2019). Can winter tourism be truly sustainable in natural protected areas? *Journal of the Geographical Institute "Jovan Cvijić" SASA, 69*(3), 241-252. https://doi.org/0.2298/IJGI1903241C

Doğanay, H., & Zaman, S. (2016). *Türkiye turizm coğrafyası* (5. ed.). Pegem Akademi.

Gabdrakhmanov, N., & Hosseini, S. (2019). *Site location and construction of ski resorts using Geographical Information System (GIS) in Isfahan Province*. 272. IOP Publishing. https://doi.org/10.1088/1755-1315/272/2/022013

Gössling, S., & Scott, D. (2025). Climate change and tourism geographies. *Tourism Geographies*, *27*(3–4), 642–652. https://doi.org/10.1080/14616688.2024.2332359

Kapuściński, G., & Richards, B. (2016). News framing effects on destination risk perception. *Tourism Management*, *57*, 234-244.

Koenig, U., & Abegg, B. (1997). Impacts of climate change on winter tourism in the Swiss Alps. *Journal of Sustainable Tourism, 5*(1), 46-58. https://doi.org/10.1080/09669589708667275

Konstantina, Z., Saida, P., Blasco, D., Antonio, J., & Benito, D. (2019). Tourism-philia versus tourism-phobia: Residents and destination management organization's publicly expressed tourism perceptions in Barcelona. *Tourism Geographies, 21*(2), 306-329. https://doi.org/10.1080/14616688.2018.1522510

Kutlu, D., Dişli Bayraktar, E., & Ayyıldız, H. (2018). The effect of the online news on tourism. *Gaziantep University Journal of Social Sciences, 17*(1), 169-175. https://doi.org/10.21547/jss.335584

Kürüm, S., & Nas, N. Ö. (2020). Petrographic and geochemical characteristics of the Palandöken Volcanic. *International Journal of Pure and Applied Sciences*, 42-60. Retrieved from https://doi.org/10.29132/ijpas.814660

Palandöken Kayak Merkezi. (n.d.). Retrieved August 21, 2024, from ejder3200: https://www.ejder3200.com/Page/S/2/4/Palandoken-Kayak-Merkezi

Service, T. S. (2024). *Palandöken kayak merkezi*. Turkish State Meteorological Service.

Steiger, R., Posh, E., Tappeiner, G., & Walde, J. (2023). Seasonality matters: Simulating the impacts of climate change on winter tourism demand. *Current Issues in Tourism, 26*(17), 2777-2793. doi:10.1080/13683500.2022.2097861

T.C. Kültür ve Turizm Bakanlığı. (2024). Turizm istatistikleri. T.C. Kültür ve Turizm Bakanlığı.

The Moscow Times. (2023, February 6). Russia sending aid to Turkey, syria after devastating earthquake. Retrieved November 11, 2024, from The Moscow Times: https://www.themoscowtimes.com/2023/02/06/russia-sending-aid-to-turkey-syria-after-devastating-earthquake-a80149

The New York Times. (2023, February 5). Turkey Earthquake. Retrieved November 11, 2024, from The New York Times: https://www.nytimes.com/live/2023/02/05/world/turkey-earthquake

Times, T. N. (2011). The 41 Places to go in 2011. Retrieved August 21, 2024, from The New York Times: https://www.nytimes.com/2011/01/09/travel/09where-to-go.html

Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı. (2023). 2023 Kahramanmaraş ve Hatay Depremleri Raporu. Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı. Retrieved from https://www.sbb.gov.tr/wp-content/uploads/2023/03/2023-Kahramanmaras-ve-Hatay-Depremleri-Raporu.pdf

Türkiye'nin Birlik ve Dayanışma Gücü Depremle Sınandı, Asrın Felaketi Asrın Dayanışmasına Dönüştü! (2024, Şubat 8). Retrieved Ekim 22, 2024, from T.C. İçişleri Bakanlığı: https://www.icisleri.gov.tr/turkiyenin-birlik-ve-dayanisma-gucu-depremle-sinandi-asrin-felaketi-asrin-dayanismasina-donustu8#:~:text=120%20bin%20kilometre%20karelik%20alanda,107%20bin%20213%20vatanda%C5%9F%C4%B1m%C4%B1z%20yaraland%C4%B1.

Wang, Y., Han, L., & Ma, X. (2022). International tourism and economic vulnerability. *Annals of Tourism Research, 94*(103388). https://doi.org/10.1016/j.annals.2022.103388