

Exploring the Spatial Distribution of Travel Vloggers in China and Their Impact on Tourism: Insights from *Douyin* Data during May Day Golden Week 2023

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Extended abstract:

Short videos have experienced a rapid rise in popularity as a new form of social media in China in recent years. Vloggers who create and share short videos have emerged as a crucial force in making certain places popular. In most cases, this popularity will subsequently transform into an influx of tourists. A notable example is the city of Zibo in Shandong province, which has witnessed a substantial increase in tourist numbers due to a series of popular short videos. The surge in tourist arrivals began in March 2023 and reached its peak during the May Day golden week. During the golden week, Zibo welcomed approximately 240,000 tourists, marking an increase of 85,000 compared to 2019, representing a remarkable 55% rise. This growth rate significantly exceeds the national average of 19%.

While existing studies on tourism and social media have primarily focused on textual and geotagged data (Gretzel, 2008; Schroeder & Pennington-Gray, 2014; Feng et al., 2022; Sun et al., 2021; Wang, 2019; Peng, 2013; Deng et al., 2022), research specifically related to short video platforms is limited. Some researchers have started addressing this gap through the use of questionnaire surveys (Han et al., 2021; Sizan et al., 2022) and user-generated contents (Huang & He, 2022). However, further investigation is necessary to fully tap into the potential of vloggers' data and examine their impacts on tourism. In this study, I primarily examine the distribution characteristics and impacts of travel vloggers, while also giving some consideration to general vloggers and gender differences among travel vloggers. The data of travel vloggers and related variables are sourced from a data provider for *Douyin* (China mainland version of *TikTok*), the largest short video platform in China.

Firstly, I analyzed the spatial characteristics of travel vloggers by visualizing the distribution pattern. The results indicate that travel vloggers are predominantly concentrated in provinces located south of the Hu Line (also known as the Hu Huanyong Line, which is a conceptual geographic dividing line in China proposed by the renowned Chinese geographer Hu Huanyong) (Hu, 1935) (See Figure 1, 2).

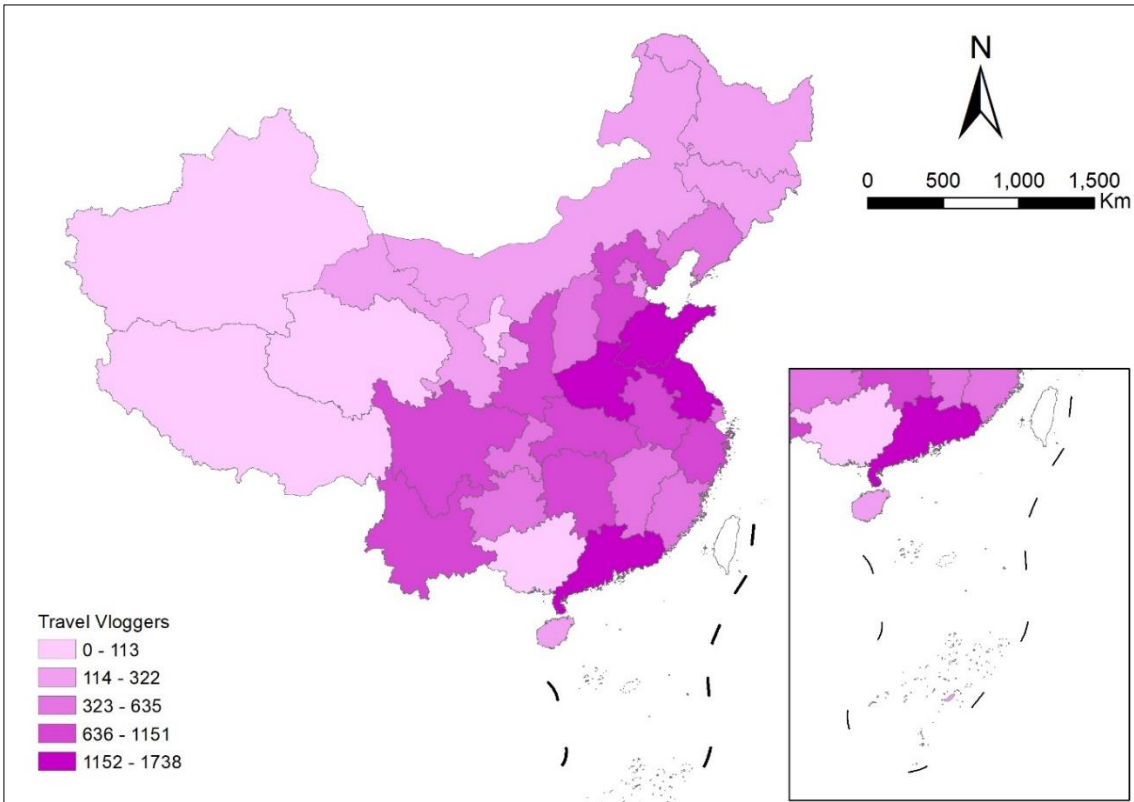


Figure 1. Distribution of the number of travel vloggers, (unit: individuals)

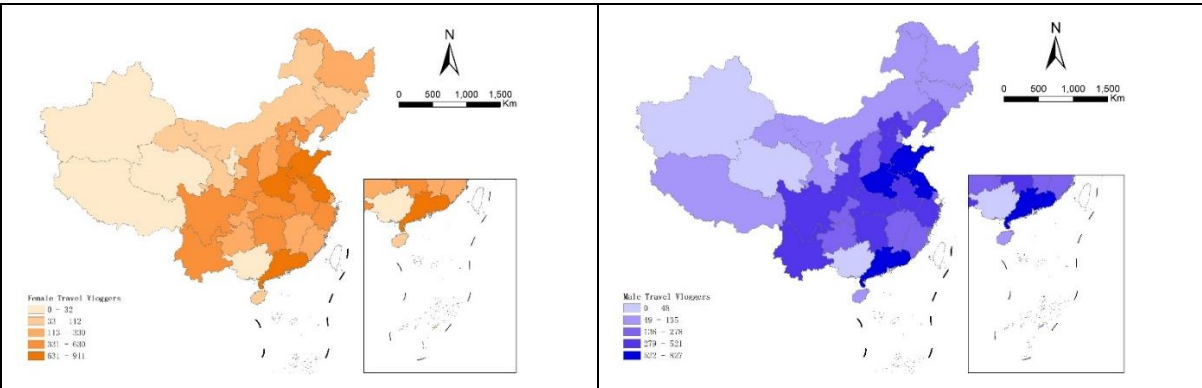


Figure 2. Distribution of the number of female (left) and male (right) travel vloggers, (unit: individuals)

Secondly, I calculated the location entropy for travel vloggers in each gender category. The location entropy for male travel vloggers is slightly higher in the East (1.02) and West (1.01) regions, indicating male's advantage compared to the national average. On the other hand, female travel vloggers exhibit a higher degree of concentration in the Northeast (1.06) and Middle (1.03) regions than the national average.

Thirdly, I utilized GeoDa software to analyze the spatial autocorrelations. The weights matrix of distance is set as Queen contiguity with order 1. It's worth noting that Hainan province is considered adjacent to Guangdong and Guangxi provinces, despite the absence of shared sides or vertices, due to their close proximity and spatial relationship.

The results of global Moran's I index analysis indicate that travel vloggers exhibit a lower positive autocorrelation compared to vloggers in general. This finding suggests that travel vloggers originate from a broader geographic scope, indicating that individuals with interests in sharing tourism experiences or information are located in diverse locations where tourism opportunities exist. Within the travel vlogger subset, the global Moran's I index for females indicates a stronger degree of clustering compared to males. This finding may suggest that female travel vloggers tend to gravitate towards specific destinations or themes, contributing to their clustering pattern.

The results of the local Moran's I indices for travel vlogger indicate that there are five high-high value clusters in Shandong, Henan, Anhui, Jiangsu and Fujian. This finding could indicate that these regions offer attractive destinations, tourism opportunities, or a supportive environment for travel vlogging. A low-low spatial cluster is observed in Xinjiang. The reason may lie in the limitations in tourism consumption capacity in Xinjiang. The limitation in Shanghai might be the lack of high-level tourism attractions, whereas in Jiangsu, the constraints on travel vlogger development could be linked to the economic power and hence the tourism consumption potential.

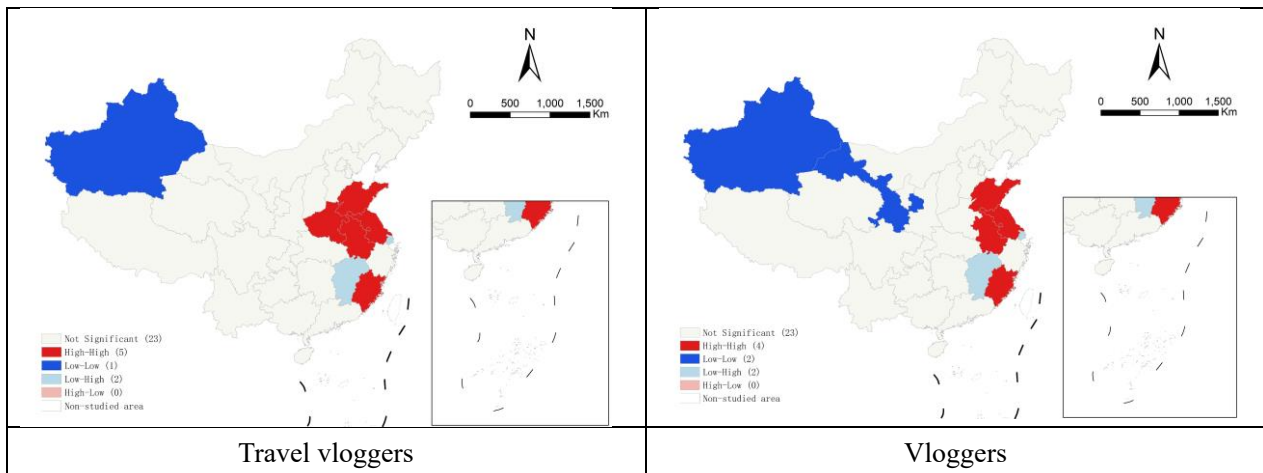


Figure 3. Spatial distribution map of local Moran's I

Next, I conducted an analysis of the influencing factors of tourist arrivals using the Geodetector approach (Wang et al., 2016; Wang & Xu, 2017). The tourist arrival data pertains to each province in China during the May Day golden week in 2023.

In the Factor Detection Analysis of Geodetector, the results indicate that the following variables are statistically significant, listed in descending order of their explanatory power: *Travel vloggers* > *Female travel vloggers* > *Male travel vloggers* > *Female vloggers* > *Vloggers* > *Male vloggers* > *5A-level scenic areas* > *Hotels* > *Transport infrastructures* > *Travel agencies*. Various variables related to vloggers demonstrate a higher explanatory power compared to conventional variables. Meanwhile, travel vloggers exhibit a stronger impact on tourism arrivals compared to vloggers in general. Among them, female travel vloggers have a greater influence on the number of tourist arrivals compared to their male counterparts.

In the Ecological Detection Analysis of Geodetector, I discovered significant differences between the following pairs in their ability to explain the dependent variable: travel vloggers and travel agencies, travel vloggers and hotels, travel vloggers and transport infrastructures, female travel vloggers and travel agencies.

The distinct influence of travel vloggers, compared to other conventional entities, highlights their growing importance as a new influential force in the tourism industry. This observation also indicates the potential for collaboration and partnerships. Travel agencies, hotels, and transport infrastructures can leverage the popularity and reach of travel vloggers to enhance their marketing efforts and attract more tourists. Specifically, travel agencies can benefit from the synergistic effects of collaborating with female travel vloggers.

In the Geodetector analysis of Interaction Detection, the results reveal a bi-factor enhancement effect for the interaction of any two factors. A notable finding is that when travel vloggers interact with hotels or transport infrastructures, their explanatory power increases compared to when they interact with vloggers in general. On the other hand, when travel vloggers interact with 5A-level scenic areas or travel agencies, their explanatory power is relatively smaller compared to when they interact with vloggers in general. This suggests that hotels and transportation infrastructures may benefit from more effective collaboration with travel vloggers, while 5A-level scenic areas and travel agencies may not necessarily rely solely on travel vloggers for their success.

As a conclusion, the aforementioned findings emphasize the significance of travel vloggers and short videos in promoting tourism development. Destination management organizations and policymakers should pay attention to this new form of social media. In China, travel vloggers tend to be concentrated predominantly in the south-east region below the Hu line, indicating an imbalanced distribution at regional level. Furthermore, there are gender-based variations in concentration patterns and clustering tendencies between female and male travel vloggers. These differences may suggest potential variations in content themes, storytelling approaches, or perspectives that appeal to their respective audiences. Additionally, a positive spatial autocorrelation exists among travel vloggers, indicating a tendency for them to cluster together in certain areas.

When explaining tourism arrivals in each province, Geodetector analyses indicate that travel vloggers have a higher explanatory power compared to conventional variables. General vloggers also hold more influence than traditional entities, although their influence is lower than that of travel vloggers. It is crucial to recognize the distinctions between these two groups and establish effective collaborations.

Overall, it is not only important for the government to produce and upload videos as travel vloggers but also essential to encourage the growth of more vloggers and inspire individuals to create and share videos. This can be achieved through initiatives that support vlogger training, provide resources, and create an enabling environment for vlogging activities. By harnessing the power of short videos and nurturing a diverse vlogging ecosystem, destinations can enhance their promotional efforts and attract a broader audience.

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