

Note: Snapshot PDF is the proof copy of corrections marked in EditGenie, the layout would be different from typeset PDF and EditGenie editing view.

## Author Queries & Comments:

**Q1 :** The title has been modified to make it clearer and more effective. Please correct if this is inaccurate.

Response: Resolved

**Q2 :** The reference "Sequera, 2020" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q3 :** The reference "Richard, 2017" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q4 :** The reference "García et al., 2020" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q5 :** The reference "Frank, 2021" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q6 :** The reference "Kreager et al., 2011" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q7 :** The reference "McDonald & Stokes, 2020" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q8 :** The reference "Velez et al., 2012" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q9 :** The sentence "But the distrust..." has been changed. Please check the change conveys the intended meaning or amend.

Response: Resolved

**Q10 :** The reference "Crespi-Vallbona and Mascarilla-Miró (2018)" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q11 :** The reference "Bernasco & Block, 2011" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q12 :** The reference "Echazarra, 2014" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q13 :** Please provide significance for "\*" in Tables 1, 2 and 3.

Response: Table 1 collects the descriptive statistics of the variables. There is no associated statistical significance because they are not regression results. I have removed the asterisks that appeared in the names of some variables because they referred to a footnote that I removed from the final version. I have corrected the error for tables 2 and 3 and have indicated the significance in a table

footerSorry for the inconvenience.

**Q14 :** The value "b .000" has been changed to " $p=.000$ " in the sentence "... the higher the amount of violent crime...".

Please correct if this is inaccurate.

Response: Resolved

**Q15 :** The reference "Smith, 2014" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q16 :** The reference "Vergara-Erices, 2021" is cited in the text but is not listed in the references list. Please either delete the in-text citation or provide full reference details following journal style.

Response: Resolved

**Q17 :** The disclosure statement has been inserted. Please correct if this is inaccurate.

Response: Resolved

**Q18 :** Please provide missing issue number for "Biagi et al., 2012" references list entry.

Response: Resolved

**Q19 :** Please provide missing page range for "Brickell et al., 2017" references list entry.

Response: Resolved

**Q20 :** Please provide missing volume number, issue number, page range for reference "Buil-Gil et al., 2021" references list entry.

Response: I have added the page range, but this article does not have an associated volume or number. It's an online preview.

**Q21 :** Please provide an English translation of the title in the reference "Cocola-Gant, 2016, 2019".

Response: Resolved

**Q22 :** Please provide an English translation of the title in the reference "Davis, 2007".

Response: Resolved

**Q23 :** Please provide missing DOI, if available, for the "Davis, 2007" references list entry.

Response: This reference has not got available DOI

**Q24 :** Please provide missing issue number and DOI, if available, page range for reference "Drawve et al., 2020" references list entry.

Response: Resolved

**Q25 :** The reference "Drawve et al., 2020" is listed in the references list but is not cited in the text. Please either cite the reference or remove it from the references list.

Response: Resolved

**Q26 :** Please provide an English translation of the title in the reference "González-Leonardo et al., 2020".

Response: Resolved

**Q27 :** Please provide an English translation of the title in the reference "Hernández & Andreeva, 2016".

Response: Resolved

**Q28 :** Please provide missing issue number for reference "Hernández and Andreeva, 2016" references list entry.

Response: Resolved

**Q29 :** The reference "Levine, 2015" is listed in the references list but is not cited in the text. Please either cite the reference or remove it from the references list.

Response: Resolved

**Q30 :** Please provide an English translation of the title in the reference "López-Gay, 2018".

Response: Resolved

**Q31 :** Please provide missing DOI, if available, for the "López-Gay, 2018" references list entry.

Response: This paper has not got available DOI

**Q32 :** Please provide missing issue number and DOI, if available for reference "López-Gay, 2018" references list entry.

Response: Resolved

**Q33** : Please provide an English translation of the title in the reference "López-Gay et al., 2019".

**Response:** Resolved

**Q34** : The reference "López-Gay and Salvati, 2020" is listed in the references list but is not cited in the text. Please either cite the reference or remove it from the references list.

**Response:** I want to delete this reference, but I cannot. I have uploaded the correct reference. (López-Gay et al., 2020b)

**Q35** : Please provide missing issue number for reference "Maldonado-Guzmán, 2020" references list entry.

**Response:** This manuscript does not yet have an assigned issue number because it is an online preview

**Q36** : Please provide missing publisher name for reference "Rengert and Lockwood, 2009" references list entry.

**Response:** Resolved

**Q37** : Please provide an English translation of the title in the reference "Robles, 2008".

**Response:** Resolved

**Q38** : Please provide missing issue number, DOI, if available for reference "Robles, 2008" references list entry.

**Response:** This paper does not have available DOI

**Q39** : Please provide an English translation of the title in the reference "Sorando, 2018".

**Response:** Resolved

**Q40** : Please provide missing DOI, if available, for the "Sorando, 2018" references list entry.

**Response:** This paper does not have available DOI

**Q41** : Please provide an English translation of the title in the reference "Sorando & Ardura, 2016".

**Response:** Resolved

**Q42** : Please provide missing issue number, DOI, if available for reference "Torkington, 2010" references list entry.

**Response:** This paper has not got available DOI

**Q43** : Please provide missing page range for reference "Valli, 2020" references list entry.

**Response:** Resolved

**Q44** : Please provide missing DOI, if available, for the "Van Tram and Bridges, 2009" references list entry.

**Response:** This paper does not have available DOI

**Q45** : The reference "Weisburd et al., 2009" is listed in the references list but is not cited in the text. Please either cite the reference or remove it from the references list.

**Response:** Resolved

**Q46** : Please provide an English translation of the title in the reference "Zaar, 2019".

**Response:** Resolved

**Q47** : Please provide missing issue number and DOI, if available for reference "Zaar, 2019" references list entry.

**Response:** Resolved

**Q48** : Please provide missing issue number for reference "Zhang and Xiang, 2021" references list entry.

**Response:** This paper is available in the "onlinefirst" section of the journal.

**CM1** : This p is uppercase and the other p is lowercase

**CM2** : I want to delete this reference, but I cannot. I have added the correct version of this reference (Kindly see López-Gay et al., 2020b)

---

# Savage tourism and its implication in theoretical criminology: a shift towards social disorganization[Q1]

**Recto running head** : CURRENT ISSUES IN TOURISM

**Verso running head** : D. J. MALDONADO-GUZMÁN

## ABSTRACT

Routine activities theory has been the most widely used framework to analyse the relationship between tourism and crime. But beyond crime opportunity, other ecological and structural factors may be present in this relationship. This article analyses whether high levels of tourist intensity are related to higher levels of urban crime in Barcelona (Spain) using the variables of social disorganization theory, that is, concentration of disadvantages, population turnover and ethnic-cultural heterogeneity. Under the hypothesis that the touristification of Barcelona neighbourhoods intensifies population turnover and enhances economical and ethnic-cultural heterogeneity in the area, it is expected that higher levels of tourism are related to higher rates of property and personal crime. To test this hypothesis and the mediating role of ecological variables, negative binomial fit models and simple mediation regression models are used. Findings suggest that higher levels of tourism are related to a higher volume of property and violent crimes in neighbourhoods and that this relationship is mediated by residential instability and national heterogeneity. However, mediation models suggest a negative relationship between tourism and crime when concentrated disadvantages are the mediator factor. The need to rethink the role of the socioeconomic variable in the relationship between crime and touristification is discussed.

## KEYWORDS

- Touristification
- urban crime
- social disorganization
- Barcelona

## Introduction

With a few exceptions (Pelfrey, 1998; Pizam, 1982; Zhang & Xiang, 2021), research on relationship between tourism and crime finds that increased tourism leads to a rise in crime rates (Biagi et al., 2012; Montolio & Planells-Struse, 2016; Recher & Rubil, 2020; Drawve et al., 2020), especially of offences committed against property (Mataković, 2020; Van Tram & Bridges, 2009). This positive and significant relationship between the number of visitors and crime rates has been explained mainly based on the routine activities theory of Cohen and Felson (1979). Although this theory has proved itself useful and effective in explaining the relationship between visitor attraction and increased crime (Roncek & Maier, 1991), the high accumulation of vacationers in one area and the almost exclusive touristic land uses would be responsible for several changes in the local community and in its social fabric that the crime opportunity approach would not be able to capture.

The postulates of the social disorganization theory (Shaw & McKay, 1942) might be of great use in the analysis of the relationship between tourism and crime in a way that is not addressed by the crime opportunity approach. Social disorganization has been defined as the inability of residents to realize common values or solve commonly experienced problems (Kornhauser, 1978) due to the presence of certain structural characteristics in neighbourhoods – (i) *low socioeconomic status*, (ii) *population turnover* and (iii) *ethnic-cultural heterogeneity* – which make it difficult to establish informal community social control given the breakdown of social ties. This situation creates a context that facilitates the increase of problems such as crime itself. According to this theory, the concentration of disadvantages in neighbourhoods plays the most important role in the community social disorganization, not because poor people commit more crimes, but because the low economic status is responsible for the appearance of the other two factors: population turnover and national heterogeneity.

The relatively rapid changes that some areas experience due to the excessive increase in tourism can destabilize the community, fostering a *loss of a sense of belonging* to the place and thereby fewer levels of collective efficacy of the neighbourhood (Park & Stokowski, 2009), understanding collective efficacy as the combination of social cohesion levels with informal social control mechanisms (Sampson et al., 1997). Moreover, areas that concentrate high levels of tourism induce *high population turnover* and an increase in economic and ethnic-cultural heterogeneity in the area (Van Tram & Bridges, 2009).

More specifically, the ecological approach of social disorganization could be especially useful in the study of crime and its

link with certain socio-spatial transformations related to the vacation industry, as is the case of *touristification*, understood as the transformation of a neighbourhood into an exclusive enclave where large entertainment, leisure and tourism companies have settled (Sequera, 2020 [Q2]). Even though this phenomenon might suppose many challenges for local communities, few studies have addressed the link between *touristification* and variations in crime volume from an ecological perspective. We find some exceptions in the work developed for Maldonado-Guzmán (2020), Roth (2021) and Ke et al. (2021), in which the idea that the concentration of Airbnb fosters crime due to the rupture of the informal social control is suggested. In that sense, one could logically conjecture that the changes associated with *touristification* would activate or enhance the structural variables linked to the social disorganization of one local community. The present article seeks therefore to fill this gap in the literature by studying whether highly touristified areas in Barcelona (Spain) are related to social disorganization variables, as well as if these variables are positively related to crime.

## State of the art

In cities of peripheral economic, the lower purchasing and consumption capacity of residents limits those forms of more classical gentrification (Cocola-Gant, 2019), understood as that process of transformation of the population that inhabits a territory such that the new population is of a higher socioeconomic status than the previous inhabitants (Sorando & Ardura, 2016, p. 35). According to Smith's (1979) differential rent model, the potential benefits following urban rehabilitation operations are not high enough to motivate such interventions, since the worse economic conditions of the local population do not satisfy the criteria for capital raising. In this case, tourism becomes the key element in the production of space, as the differences between the income of inhabitants and visitors make it much more profitable to produce spaces for tourism than for local consumption (Cocola-Gant, 2019).

The strategies of intensifying tourism to ensure the extraction of rents have a series of consequences for the local population in terms of displacement. Zaar (2019) proposes a classification by describing three interrelated types of displacement resulting from *touristification*: (1) population, (2) commercial and (3) symbolic displacement.

First, *population displacement* stems mainly from the higher housing prices which local inhabitants of lower status cannot afford to pay, so they have to leave the neighbourhood. However, sometimes neighbours are expelled as a consequence of specific strategies to ensure this expulsion, since lower status inhabitants would be regarded as a problem that hinders the extraction of capital through public space (Jover & Díaz-Parra, 2019; Zaar, 2019). The expulsion of local neighbours has been a common practice since housing has become a real estate asset in *touristification* and gentrification processes (Sorando, 2018).

The problem of the expulsion of neighbours is aggravated by Airbnb-type short-term rental apartments. The accumulation of this type of accommodation accelerates *touristification* because neither the intervention of several actors – such as the local or national government – nor major remodelling of space and housing is necessary. All that is required is to transform residential dwellings into tourist apartments, which further raises the profits of potential owners with hardly any large investments (Wachsmuth & Weisler, 2018). Nevertheless, the concentration of Airbnb lodgings can also negatively affect the local community in neighbourhood where population is not being expelled. For example, instead of staying in hotels, the new urban tourist seeks the everyday experience in creative and quality spaces, something that has facilitated the expansion of Airbnb-type accommodations (Richard, 2017 [Q3]). A fairly common practice of the postmodern tourist is to rent Airbnb lodgings in buildings where long-time neighbours live and share a staircase with them (Cocola-Gant, 2016). This mix of residential uses in the same building can cause problems of coexistence between permanent residents and tourists, something that could negatively affect the quality of life of inhabitants. Maybe this phenomenon could explain the Van Holm and Monaghan's (2021) findings. Authors found that the increase in the number of Airbnb lodgings was related to an increase in calls to the police related to party nuisances and to a higher number of property crimes one month later.

Second, *commercial displacement* implies a significant reduction of residence-oriented stores and services, which are replaced by tourism-oriented products and services (Gotham, 2005). As a large part of the local population is displaced by a mobile population, stores that meet the needs of long-time residents are replaced by those geared to tourism. Therefore, businesses traditionally run by families living in the neighbourhood are now led by large chains that would contribute to a *franchising* process of the neighbourhood (García et al., 2020 [Q4]).

The conversion of neighbourhoods into a 'theme park' also produces a *symbolic or emotional displacement* (Valli, 2020), which would be intensified by the consequences of the types of displacement described above. The changes fostered by *touristification* generate a new social context in which lifelong neighbours feel dispossession of the places they inhabit (Atkinson, 2015) and of family life forms (Frank, 2021 [Q5]), since everyday neighbourhood spaces where they accumulated cultural practices and social experiences have been appropriated by the leisure industry (Cocola-Gant, 2019).

Neighbours and lifelong friends are expelled by the dynamics of the real estate market (Sorando & Ardura, 2016), so that the remain neighbours may feel that the neighbourhood is not the same as it used to be (Brickell et al., 2017).

Due to these three forms of displacement which are linked to the *touristification* process, it is difficult to assume that, over time, the conversion of neighbourhoods into tourist enclaves will culminate in socially organized neighbourhoods, as proposed by some authors who have analysed the relationship between crime and the more classic processes of gentrification (Bogges & Hipp, 2016; Kirk & Laub, 2010; McDonald, 1986). Most of the literature agrees that gentrification, in the short term, causes a socially disorganized community, but, once time has passed, urban regeneration returns the community to an organized character that produces a decrease in crime rates (Kirk & Laub, 2010; Kreager et al., 2011 [Q6]; McDonald, 1986; McDonald & Stokes, 2020 [Q7]; Velez et al., 2012 [Q8]). As the new population becomes homeowners, residential instability is reduced, and homeowners show a greater likelihood of investing in their homes and community and are more willing to engage in informal social control (Bogges & Hipp, 2016).

However, in the process of *touristification*, the traditional population is not replaced by a new, more stable population with a higher economic and cultural status, but is replaced by a floating population characterized mainly by tourists (Hermi-López-Gay et al., 2020; Zaar, 2019). This implies that the population turnover is continuous, with a constant flow of entries and exits of people who come to the neighbourhood for a short time. In this line, several authors found that the relationship between the urban transformation in the neighbourhood and the increase of the crime rates in the area was substantially mediated by population turnover (Atkinson, 2000; Van Wilsem et al., 2006). Moreover, the residential instability of a high number of visitors in continuous rotation reduces both the capacity and the willingness of scarce residents to act as gatekeepers, which would reduce the collective efficacy levels (Mawby, 2010).

However, social cohesion would not be only hindered by the population replacement and by continuous population movements, but also by the disappearance of opportunities for interaction in the public space. Robles (2008) found that in local businesses, residents exchange information, favours and goods, reinforcing mutual social relationships that generate reciprocity based on mutual knowledge and trust. The transformation of a local business into a tourism-oriented one endangers encounters between neighbours that end up crystallizing into social relations (Hernández & Andreeva, 2016).

The problem of *touristification* is also aggravated when other processes and different forms of gentrification overlap with it, as it is the case of *lifestyle migration* processes. In Barcelona, the population arriving in the city has a transnational profile and chooses to live in neighbourhoods with tourist attractive (López-Gay et al., 2019; 2020), so the same neighbourhood where the population has been previously expelled from by classic gentrification and by *touristification* is also chosen by the so-called lifestyle migrants (Sigler & Wachsmuth, 2020). These migrants have a particular mobile nature (Cocola-Gant & López-Gay, 2020), they do not speak the local language and they frequent the same places where they coincide with their compatriots (Torkington, 2010), so their interaction with locals is not much probable.

Along with the ethnic-cultural heterogeneity that this process implies, there is also heterogeneity at the economic level. McDonald and Stokes (2020) found that people with significant differences in income living together do not socially mix with each other, and that economic heterogeneity in the neighbourhood can lead to private efforts to ensure neighbourhood well-being, eroding the shared sense of place and civic cooperation. Thus, the economic difference between lifestyle migrants and old residents could increase social distance and reduce the necessary interactions for informal social control (Bogges & Hipp, 2016).

The arrival of more wealthy populations in traditionally devalued neighbourhoods may also arouse negative reactions from the lower status local population. Barton et al. (2019) found that traditional residents perceive the threat of displacement or expulsion from their neighbourhood and observe newcomers as 'enemies', something that could compromise levels of collective efficacy in the neighbourhood. Similarly, resentment toward newcomers may cause traditional residents to be unwilling to help new neighbours, even if unfamiliar with neighbourhood dynamics (Barton & Gruner, 2016). But the distrust climate between locals and lifestyle migrants could extend beyond them and affect local neighbours themselves. [Q9] For instance, Crespi-Vallbona and Mascarilla-Miró (2018 [Q10]) found that in the Barcelona's Barceloneta quarter, some neighbours clashed with other neighbours who had transformed their home into tourist accommodation, blaming them for thus aggravating the problem of access to long-lasting housing. This produced, according to the authors mentioned, that the neighbours developed attitudes of private surveillance that undermined a climate of mutual trust.

In short, residential instability and the heterogeneity of inhabitants and visitors could weak the social ties of friendship and kinship and reduce the local sense of community (Park & Stokowski, 2009). However, the concentration of disadvantage, one of the factors to which Shaw and McKay (1942) gave most importance, may decrease with these *touristification* processes as the lower status population is eliminated. Therefore, it is necessary to incorporate this variable to analyse to

what extent and in what way it could mediate the relationship between *touristification* and urban crime.

Based on the social disorganization theory, we formulate two hypotheses:

- 1 The variables of social disorganization theory show a significant relationship with crime rates in the neighbourhoods of Barcelona.
- 2 The relationship between tourism and crime is mediated by classical variables of social disorganization theory.

## Data and method

### Region of study, data and variables

#### Region of study and data

We selected, the city of Barcelona to test our hypothesis on the relationships between tourism and crime using ecological variables. In 2019, Barcelona ranked fifth in the European ranking in terms of overnight stays by international tourism and first place in terms of Mediterranean cruise ports (Barcelona Tourism Observatory, 2020). Also, is one of the many metropolises on the planet where transformation processes in central urban spaces have intensified in recent years (López-Gay, 2018). The high levels of tourism overlap and are reinforced by the arrival of lifestyle migrants who, as noted above, choose to stay in the most touristic neighbourhoods (Cocola-Gant & López-Gay, 2020). Thus, Barcelona represents a particularly useful paradigmatic case to analyse how the intense *touristification* of some of its neighbourhoods could represent a form of social disorganization.

We selected the neighbourhood as the unit of spatial analysis in this research. Although the best size of the unit of analysis for the spatial study of crime has been discussed by the literature (Bernasco & Block, 2011 [Q11]; Rengert & Lockwood, 2009; Weisburd et al., 2012), Buil-Gil et al. (2021) suggest that when using police data, the most appropriate option is to use larger scale aggregated crime data. Despite the city under study is composed of 73 neighbourhoods, all those with a population of fewer than 4000 inhabitants have been eliminated from the analysis. As a consequence of this adopted criterion, we analyse the relationship between tourism and crime in 63 Barcelona's neighbourhoods.

The data used in this article have been extracted from five different sources: the regional police of Catalonia, the Barcelona open data portal, the *InsideAirbnb* website, the *Flickr* API, and the Spanish Statistics Office (INE). The number of crimes against property and people occurring on public roads in 2017 was obtained upon request to the first data source: the regional police of Catalonia. From the open data portal, we have obtained almost all the census information at the neighbourhood level needed to construct the three traditional variables of social disorganization. From the INE we have extracted the average taxable income per neighbourhood and the proportion of tourist dwellings per number of households owned in each neighbourhood. Finally, the *InsideAirbnb* portal has been used to obtain the total number of Airbnb-type tourist accommodations and the *Flickr* API has been used to obtain the location of 2020 photographs taken in the city by tourists between 2010 and 2017.

#### Dependent and independent variables

The independent variables represent the three traditional factors of social disorganization theory, i.e. the concentration of disadvantages, population turnover and ethnic-cultural heterogeneity. Together with these three factors, other two variables are included in the analysis: tourist intensity and population density, the latter acting as a control.

The first independent variable, *concentrated disadvantages*, has been measured by the average of the Z-score values of the following variables: average taxable income of the neighbourhood in 2017, rate of people in 2017 who have not obtained a high school diploma and rate of long-term unemployed in 2017. A principal component extraction method and a varimax orthogonal rotation were employed. The KMO index yielded a result of 0.807 and Bartlett's test of sphericity was statistically significant ( $p < .005$  with 78 degrees of freedom). The total variance explained by the three variables is 84.1%. Once it was observed that the variables in question corresponded to the same factor, we proceeded to calculate each of the indicators using the mean value of the Z-values of each of the variables (Steinmetz-Wood et al., 2017).

We measured *population turnover* by the average of the Z-score values of the following variables: the percentage of non-owner residents in the neighbourhood, the sum of the number of registrations by omission, the number of immigrants, the number of cancellations for undue inscription and the number of migrants divided by the population of the neighbourhood in 2017; and the percentage of people who discharged in the neighbourhood in the last five years. As all variables loaded on the same factor, we proceeded to calculate each of the indicators using the mean value of the Z-values of each of the

variables.

The third variable of social disorganization theory is *national heterogeneity*. We measured it using the Herfindahl Index (Echazarra, 2014 [Q12]; Maldonado-Guzmán, 2020), which is defined as follows:  $H = \sum_{i=1}^N S_i^2$ , where  $S_i$  is the proportion of an ethnic or national group  $i$  with respect to the total population of the neighbourhood and  $N$  the total number of neighbourhoods. In this case, it has been calculated by the percentage of the total population coming from countries located in one of the five continents. The index returns values between 0 and 1, with 0 being the maximum homogeneity and 1 the maximum heterogeneity. We Z-standardized this variable to include all the variables in the model at the same scale.

We measured the variable *tourist intensity* as the mean of the Z-score values of each of the following variables: the Kernel density of the number of Airbnb accommodations in the area, the Kernel density of the number of licensed bar terraces weighted by the area of each bar terrace, the rate of tourist accommodation places per 100 inhabitants, the percentage of total tourist accommodation per number of dwellings in the neighbourhood, the Kernel density of the total number of bars and pubs, cocktail bars, discotheques, nightclubs, dance halls and flamenco clubs in the neighbourhood, the Kernel density of 2020 photos taken in the neighbourhoods and uploaded to Flickr between 2007 and 2017 under the tags 'vacations', 'tourism', 'holidays', 'tourism' and 'Barcelona', and the Kernel density of the locations of the businesses mainly used for tourist activities (fast-food restaurants, bars and restaurants, souvenir stores and pubs, cocktail bars and discotheques). The value of each of these leisure spaces has been weighted as follows: with a value of 1 for restaurants, with a value of 1.5 for bars and Internet cafes with a value of 1.75 for fast-food restaurants, with a value of 2 for music and show bars and with a value of 2.50 for souvenir stores.

Finally, we measured the *population density* variable as the number of people per square kilometre of the neighbourhood. We Z-standardized the variable to include all the variables in the model at the same scale. Table 1 shows the descriptive statistics for each dependent and independent variable.

**Table 1.** Descriptive statistics of the variables [Q13] used in the model.

Variables	Min.	Max	Average	SD
<i>Dependent variables</i>				
Property crime rates	1	40	4.14	6.83
Crime against people rate	0	1	0.11	0.106
<i>Independent variables</i>				
Concentrated disadvantages*	-0.55	1.07	0	1
Population instability*	-1.28	3.20	0	1
National heterogeneity	0.25	0.92	0.7	0.13
Tourist intensity*	-1.05	3.43	0	1
<i>Control variables</i>				
Population density	2585.50	61840	27679.22	15274.5

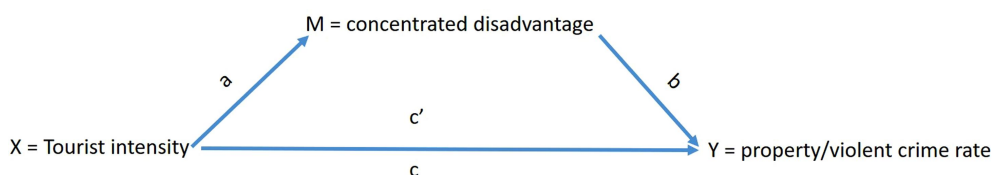
### Analytical strategy

Hypothesis 1 posits that there are significant relationships between crime and variables of social disorganization theory. To test this hypothesis, we observe the Pearson correlation coefficients and carry out two negative binomial regression models (hereafter NB), using a logit-type link function with a deviance-based scaling parameter method and a maximum likelihood ratio chi-square statistic. Three NB regression models are built for each type of crime. The first one includes the three traditional variables of social disorganization theory. In the second model, tourism intensity is added, whereas neighbourhood population density is introduced as a control variable in model three. To compare the goodness-of-fit of models we observe the AIC values (Oshan et al., 2019).

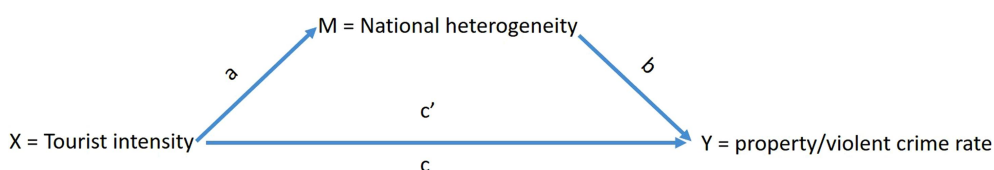
For its part, hypothesis 2 posits that the possible relationship existing between tourism and crime would be mediated by the concentration of disadvantage, population instability and ethnic-cultural heterogeneity. To test this hypothesis, we execute three simple mediation regression models using *PROCESS* macro for SPSS (Hayes, 2018). *PROCESS* is an analysis tool used in the estimation of direct and indirect effects in mediation models. The direct effect ( $c'$ ) is that obtained from the regression between variable  $X$  and  $Y$  when controlling the effect of a mediator factor  $M$ . The indirect effect ( $ab$ ) is that which measures the relationship between  $X$  and  $Y$  through a mediating variable  $M$ . *PROCESS* includes significance tests to check the hypothesis of no difference between these two effects. The presence of a mediating effect between tourism and crime through social disorganization is revealed if only the following two conditions are present: (i) that a relationship between tourist intensity and crime is observed – that is, that the total effect  $c \neq 0$  – and (ii) that there is a significant difference between the direct effect and the indirect effect. The indirect effect is understood to be significant when the zero value is not included within the values covered by the confidence interval (Hilbe, 2017).

We carry out three simple mediation regression models per each crime typology. In all of these three models, dependent and independent variables are the same: crime rate and tourist intensity, respectively. However, each mediation model has a different  $M$  mediation variable. In the first model, the  $M$  is the concentrated disadvantage variable (Figure 1), in the second model, population instability is incorporated as  $M$  (Figure 2), and the third one incorporates the national heterogeneity as mediating factor between tourism and crime (Figure 3). We calculate the significance of the difference between the direct and the indirect effects by a bootstrapping process of  $k = 20,000$  iterations (Hayes, 2018).

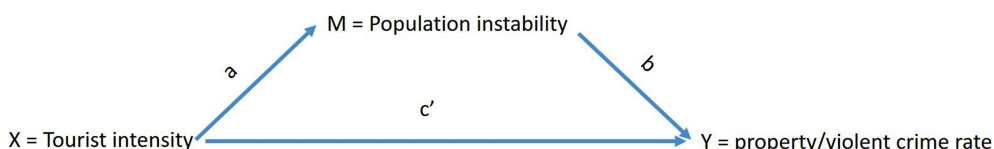
**Figure 1.** Simple mediation regression model with concentrated disadvantage as the mediator factor.



**Figure 2.** Simple mediation regression model with population instability as the mediator factor.



**Figure 3.** Simple mediation regression model with national heterogeneity as the mediator factor.



## Results

In this section, we present firstly the findings linked to the first hypothesis, showing the Pearson coefficients regression and the results of NB regression models for both property and violent crimes. Afterwards, we expose the findings linked to the second hypothesis, showing the results of each mediation regression model.

### Relationships between crime rates and social disorganization variables

If we look at the correlation coefficients, we can observe that both tourism intensity and social disorganization variables have a relationship with property crimes and with violent crime in an expected sign. The higher the value of rotation and population heterogeneity, the higher the amount of crime, whereas the greatest the economic status, the fewer number of crimes. However, the coefficient correlation between concentrated disadvantages and crime is not statistically significant. We also find that tourism intensity is positively and significantly related to population turnover and to national heterogeneity, but it is negatively and significantly associated with concentrated disadvantages, as we had assumed. Nevertheless, contrary to the theory, we observe that population instability and national heterogeneity have a negative relationship with concentrated disadvantages, being this association statistically significant. These relationships should be positive since the theory posits that the low socioeconomic status is responsible for the appearance of the other two factors

in the community (Table 2).

**Table 2.** Pearson correlation coefficients between all the variables analysed.

	Property crimes	Violent crimes	Concentrated disadvantages	Population instability	National heterogeneity	Tourist intensity
Property crimes		0.901**	-0.196	0.703**	0.710**	0.633**
Violent crimes	0.901**		-0.110	0.612**	0.681**	0.525**
Concentrated disadvantages	-0.196	-0.110		-0.401**	-0.299*	-0.633**
Population instability	0.703**	0.612**	-0.401		0.768**	0.739**
National heterogeneity	0.710**	0.681**	-0.299*	0.768**		0.687**
Tourist density	0.633*	0.525**	-0.633**	0.739**	0.687**	

\*\* The correlation is significant at the 0.01 level (bilateral).

\* The correlation is significant at the 0.05 level (bilateral).

Table 3 shows the findings of applying each NB regression model to property crime rates in each neighbourhood. Column 1 displays the results after introducing only the classical social disorganization variables. Columns 2 and 3 show the results after introducing the tourist intensity and population density, respectively. As can be seen, the ecological factors of social disorganization theory are significantly related to property crime in model 1, but concentration of disadvantage shows a contrary relationship to the postulates of social disorganization. When tourism variable is included, the relationship between concentrated disadvantages and crime is positive and, them, coherent to the theory, but it is not significant. If the models are compared in terms of goodness of fit, it can be seen that the difference within AIC values of each model is not excessively high. Even so, the most adequate model in these terms is the one presented in column 2.

**Table 3.** NB model results for property crimes.

Variables	1	2	3
	Concentrated disadvantages	-0.677*	0.009
Population turnover	0.373**	0.183	0.155
National heterogeneity	3.103**	2.03**	1.71**
Tourism intensity		0.612**	0.714**
Population density			-0.173**
	AIC: 947.48	AIC: 944.05	AIC: 944.55

\*\*\*Statistically significant at 95% of confidence.

\*\*Statistically significant at 99% of confidence.

The results for crimes against people are different from those obtained for property crimes. As it can be seen in Table 4, population instability is not significant in any of the three models, and concentrated disadvantage is significant and has a negative sign only in model 1. Moreover, when tourist intensity is added, the only variable of social disorganization that shows a significant relationship is national heterogeneity. When the three models are compared in terms of goodness of fit,

it can be seen that the difference within AIC values of each model is not high at all. Even so, the most adequate model in these terms is the one presented in column 2. For both property and violent crimes, population instability and national heterogeneity are linked to crime rates in an expected way. The higher the value of these two variables, the higher the amount of crimes. However, contrary to the theory, lower levels of concentrated disadvantages are related to a higher amount of crime, except when tourism is included, since in this case concentrated disadvantage shows a positive but not statistically significant coefficient regression.

**Table 4.** NB model results for Crimes against people

Variables	1	2	3
	Concentrated disadvantages	-0.469**	0.030
Population turnover	0.221	0.051	0.054
Cultural heterogeneity	2.23**	1.62**	1.67**
Tourism intensity		-0.463**	445**
Population density			0.031
	AIC: 529.93	AIC: 531.59	AIC: 529.32

\*\*Statistically significant at 95% of confidence.

### Mediated relationships between tourist intensity and crime rates

As previously indicated, a mediating effect of environmental variables on the relationship between tourism and crime rates could be affirmed if (i) there is a significant relationship between tourist intensity and crime rate, and if (ii) the indirect effect of tourist intensity on crime rates is significantly different from zero. Tables 4 and 5 collect the results of this model for crimes against property and people, respectively.

**Table 5.** Simple mediation regression models. Results for property crimes.

Antecedent	Consequence					
	M (concentrated disadvantage)			Y (property crimes)		
	Coeff.	SD	p	Coeff.	SD	P
X: Tourist intensity	(a) -0.261	0.041	.000	(c) 4.85	0.76	.000
Tourism controlling M				(c') 6.51	0.093	.000
M: Concentrated disadvantages				(b) 6.37	2.26	.007
Antecedent	M (population instability)			Y (property crimes)		
	Coeff.	SD	p	Coeff.	SD	P
X: Tourist intensity	(a) 0.755	0.088	.000	(c) 4.85	0.76	.000
Tourism controlling M				(c') 1.92	1.01	.063
M: Population instability				(b) 3.38	0.99	.002
Antecedent	M (national heterogeneity)			Y (property crimes)		

	Coeff.	SD	<i>p</i>	Coeff.	SD	<i>P</i>
X: Tourist intensity	(a) 0.100	0.13	.000	(c) 4.85	0.76	.000
Tourism controlling <i>M</i>				(c') 2.10	0.92	.026
<i>M</i> : National Heterogeneity				(b) 27.78	6.38	.001

As we can see in Table 5, the relationship that exists between tourist intensity and property crime rates without controlling the concentrated disadvantages is positive and statistically significant ( $c = 4.85; p = 0.000$ ). Thus, higher levels of tourist intensity in the neighbourhoods are related to higher number of property crimes per 100 inhabitants. The first condition is confirmed, as a significant relationship exists between *X* and *Y* variables. However, it is necessary to test if the indirect effect, that is, the results of multiplying the coefficients *a* and *b*, is significantly different from the direct effect (*c'*). Table 5 shows that the relationship between *X* and *M* (tourism intensity and concentrated disadvantages) is negative and statistically significantly ( $a = -0.261; p = .000$ ). Moreover, the relationship existing between *M* and *Y* (concentrated disadvantages and property crime rate) is also significant but with a positive sign ( $b = 6.37; p = .007$ ). If coefficients *a* and *b* are multiplied, we obtain an indirect effect of  $ab = -1.66$ . This indirect effect is statistically significant, as the value of zero is not included in the confidence interval ( $CI = -3.26; -0.44$ ). Following the scheme in Figure 1, we can affirm that higher levels of tourist intensity are related to lower levels of concentrated disadvantages and, as concentrated disadvantages are reduced, lower levels of property crime rates are expected, thus existing a mediation process.

We obtain evidences that the relationship that exists between tourism and crime is mediated by the population instability, but the conclusion observed is different from the one we obtain for the concentrated disadvantages. Thus, the tourist intensity is related to higher levels of population turnover ( $a = 0.755; p = .000$ ), and population turnover is related to higher levels of property crimes ( $b = 3.38; p = .000$ ). The indirect effect ( $ab = 2.55$ ) is significantly different from zero ( $CI = 0.308; 6.32$ ), so it can be said that tourism intensity is related to higher number of property crimes through higher levels of population instability.

We can extend the same conclusion when the mediating factor is national heterogeneity. Higher levels of tourism in the neighbourhood are related to a greater number of different people nationalities ( $a = 0.100; p = .000$ ). Also, the greater the level of national heterogeneity, the greater the number of property crimes ( $b = 27.28; p = .001$ ). The indirect effect ( $ab = 2.73$ ) is significantly different from zero ( $CI = 0.064; 5.487$ ), so we can posit that the positive relationship existing between tourist intensity and property crime is mediated by national heterogeneity in the neighbourhood.

Table 6 shows the results of mediation models for violent crimes. Again, the first condition needed to posit that a mediation process exists between tourist intensity and violent crimes is confirmed, as these two variables are statistically significantly related without controlling any factors of the social disorganization theory ( $c = 0.063; p = .000$ ). With respect to the first mediator factor – concentrated disadvantages – this variable has a negative and significant relationship with tourist intensity ( $a = -0.261; p = .000$ ), and it is positively related to crime against people ( $b = 0.108; p = .000$ ). Thus, we obtain an indirect effect of  $ab = -0.003$ . The value of zero is not presented in the confidence interval ( $CI = -0.055; -0.122$ ), so we can posit that tourist intensity reduces the amount of violent crimes by making the concentrated disadvantages levels lower.

**Table 6.** Simple mediation regression models: results for violent crimes.

Antecedent	Consequence					
	<i>M</i> (concentrated disadvantage)			<i>Y</i> (violent crimes)		
	Coeff.	SD	<i>p</i>	Coeff.	SD	<i>P</i> <sup>1</sup>
X: Tourist intensity	(a) -0.261	0.041	.000	(c) 0.063	0.76	.000
Tourism controlling <i>M</i>				(c') 0.091	0.016	.000
<i>M</i> : Concentrated disadvantages				(b) 0.108	0.309	.007
Antecedent	<i>M</i> (population instability)			<i>Y</i> (violent crimes)		

	Coeff.	SD	<i>p</i>	Coeff.	SD	<i>P</i>
X: Tourist intensity	(a) 0.755	0.088	.000	(c) 0.063	0.76	.000
Tourism controlling <i>M</i>				(c') 0.019	0.018	.287
<i>M</i> : Population instability				(b) 0.060	0.018	.002
Antecedent	<i>M</i> (national heterogeneity)			<i>Y</i> (violent crimes)		
	Coeff.	SD	<i>p</i>	Coeff.	SD	<i>P</i>
X: Tourist intensity	(a) 0.100	0.13	.000	(c) 0.063	0.76	.000
Tourism controlling <i>M</i>				(c') 0.013	0.015	.402
<i>M</i> : National heterogeneity				(b) 0.501	0.107	.000

We found opposite conclusions when looking at the process in which the population instability is the mediator factor. The existence of higher levels of tourism in the neighbourhood is related to a higher levels of population instability ( $a = 0.755$ ;  $p = .000$ ), and this instability is linked to greater amount of violent crimes ( $b = 0.060$ ;  $p = .002$ ). The indirect effect from tourism on crime against people has a value of  $ab = 0.045$ , but due to the confidence interval (CI =  $-0.003$ ;  $0.099$ ), this effect is not significantly different from zero. This means that the direct effect from tourism on violent crime is not significantly different from the effect of tourism on violent crimes through population instability, so that there are no evidences of a mediation process through population turnover.

Finally, we can also see how tourist intensity is positively and significantly related to national heterogeneity in the neighbourhood ( $a = 0.100$ ;  $p = .000$ ). At the same time, the higher the levels of national heterogeneity, the higher the amount of violent crime ( $b = 0.501$ ;  $p = .000$ ) [Q14], so that the indirect effect has a value of  $ab = 0.005$ . The value of zero is not presented in the confidence interval (CI =  $0.016$ ;  $0.095$ ), so we can affirm that tourist intensity is related to greater amount of violent crimes in neighbourhoods through higher levels of national heterogeneity.

## Discussion

This article analyses the relationship between tourism and crime from an ecological approach. We hypothesize that tourism is positively related to the three variables of the social disorganization theory, and that the relationship between tourism and crime is mediated by these variables. The results achieved in this research support these hypotheses, although it is necessary to discuss some unexpected findings.

On the one hand, we found negative and statistically significant Pearson coefficients correlation between population turnover, national heterogeneity and concentrated disadvantage. According to social disorganization theory, concentrated disadvantages should have a positive relationship with population instability and national heterogeneity, as the low socioeconomic status cause the apparition of these other two factors. In line with these unexpected findings, in NB models the disadvantage concentration variable exhibits a negative relationship with violent and property crimes, so lower levels of disadvantage concentration are related to a higher number of both property and violent crimes.

A possible explanation of these findings is that the high population turnover and the marked ethnic heterogeneity of Barcelona's neighbourhoods is not mainly due to the accumulation of socioeconomic disadvantages, but to the socio-spatial transformations linked to gentrification and *touristification*. Notice that high touristic areas correlate with areas where the concentration of poverty is lower probably because the less affluent population has been expelled by the gentrification and *touristification* dynamics themselves, which would be consistent with the results found by González-Leonardo et al. (2020) and López-Gay et al. (2020) for Barcelona.

On the other hand, the results of the mediation models suggest that the relationship between the intensity of tourism in neighbourhoods is related to fewer levels of crime through the mediation of concentrated disadvantages, whereas tourist intensity is related to higher crime rates when population instability and national heterogeneity are the mediator factors, especially for property crimes. Despite this finding is coherent with what social disorganization theory posits, we find unexpected the fact that tourism is negatively related to both property and violent crimes through the effect of

concentrated disadvantages. This is an unanticipated result for two reasons: (i) because NB models show that concentrated disadvantage reduces crime rates and (ii) because the relationship between tourism intensity and both property and violent crimes gets stronger only when concentrated disadvantage is controlled.

Regarded to the latter reason, notice that the total effect of tourism on crime reduces its magnitude and loses its statistical significance when we control the effect of the population instability and national heterogeneity, which increases the evidence of a mediation process. However, the only case in which the coefficient of the tourism variable increases and maintains its significance is when the concentration of disadvantage in the neighbourhood is introduced as a mediator factor, thus being higher the linkage between tourist intensity and crime. A possible explanation is that a high intensity of tourism in the neighbourhood could produce two parallel processes: (i) increasing socioeconomic status through tourist gentrification and (ii) increasing the risk of victimization by contributing to neighbourhood disorganization (Ke et al., 2021) and attracting visitors who are potential victims.

The findings of this research have some implications. First, it is necessary to reconsider the role of the socioeconomic status in the community social disorganization. The concentrated disadvantages in the community would no longer be the most relevant factor that triggers the emergence of other ecological variables which jeopardize the social fabric. Thus, the argument based on the urban decadency in political discourses that defend the gentrification and *touristification* as a solution against crime should be questioned. Rather than reducing crime and other social problems, rehabilitation plans for slums have driven out the local population and encouraged micro-segregated spaces, as shown by Arbaci and Tabada-Berteli (2012) in Barcelona city centre.

Projects such as the demolition of public housing have proven to have effects contrary to those desired, increasing crime and fostering spatial segregation (Smith, 2014 [Q15]). Moreover, social mixing policies hailed by many urban developers and governors have proven to be particularly inefficient, creating small ghettos within the neighbourhood that hinder social cohesion and informal surveillance (Davidson, 2014; Vergara-Erices, 2020 [Q16]). Therefore, plans to improve the social and urban conditions of degraded neighbourhoods must ensure that the beneficiaries are the residents themselves, and that the urban transformation does not result in a process of classic, tourist or transnational gentrification that drives out the local population or reduces the quality of life and routine of lifelong residents. Otherwise, the social disorganization of the neighbourhood is likely to be enhanced.

Second, since tourist intensity could perform as a new source of social disorganization, especially for property crimes, politicians must strive to preserve the social fabric of the neighbourhood and enhance routine relationships among neighbours. This will be difficult to achieve if long-term residents are evicted or forced to leave the neighbourhood, if social relations are diluted in a public space crowded with visitors, and if local markets that meet the needs of neighbours lose their social function and are transformed into tourist attraction poles. Governments might foster not only public housing and public facilities in the community to ensure a permanent population, but also may develop protective measures of local commerce where residents weave social ties, preventing this commerce from being replaced for an almost exclusive touristic one.

All these implications could be extended to other cities around the world where tourist gentrification processes are operating. Political forces in these cities should begin to treat the problem of tourism-related crime as a community problem in which it is the neighbourhood, and not just visitors, which needs protection from the changes resulting from savage tourism.

Finally, this article has several methodological limitations. First, we hypothesize that the relationship between tourism and crime is mediated by variables of social disorganization that increase crime because they hinder adequate levels of social cohesion and informal social control. However, the lack of data on these factors has not allowed us to include the variables in the model to close the tourism–disorganization–crime loop. Second, crimes analysed in this paper have occurred in public roads, so the increase in crime rates could be partially a function of police actions in the neighbourhood, mainly in high touristic areas where zero-tolerance policies may be applied to avoid the presence of stigmatized groups (Davis, 2007). Third, future work could analyse the relationship between tourism and crime by incorporating temporal variables that give the analysis a longitudinal character, thus allowing us to see if there are links between the change in tourism intensity over time and the consecutive change in the volume of crime through the effect of social disorganization variables.

All in all, the present research proposes an ecological approach never before considered in the analysis of the relationship between tourism and crime in Spain. At the same time, it raises the need to reconsider the role of socioeconomic status in the theory of social disorganization. Future research should test whether the results found here can be extrapolated to other cities that are also undergoing processes of socio-spatial transformation linked to tourism and how the concentration of

disadvantage behaves.

## Disclosure statement

No potential conflict of interest was reported by the author(s) [Q17].

## ORCID

Diego J. Maldonado-Guzmán <http://orcid.org/0000-0002-5283-0634>

## References

- Arbaci, S., & Tabada-Berteli, T.** (2012). Social inequality and urban regeneration in Barcelona City Centre: Reconsidering success. *European Urban and Regional Studies*, 19(3), 287–311. <https://doi.org/10.1177/0969776412441110>
- Atkinson, R.** (2000). The hidden cost of gentrification: Displacement in central London. *Journal of Housing and the Built Environment*, 15(4), 307–326. <https://doi.org/10.1023/A:1010128901782>
- Atkinson, R.** (2015). Losing one's place: Narratives of neighbourhood change, market injustice and symbolic displacement. *Housing, Theory and Society*, 32(4), 373–388. <https://doi.org/10.1080/14036096.2015.1053980>
- Barton, M. S., & Gruner, C. P.** (2016). A theoretical explanation of the influence of gentrification on neighborhood crime. *Deviant Behavior*, 37(1), 30–46. <https://doi.org/10.1080/01639625.2014.983004>
- Barton, M. S., Valasik, M. A., Brault, E., & Tita, G.** (2019). 'Gentefication' in the Barrio: Examining the relationship between gentrification and homicide in East Los Angeles. *Crime and Delinquency*, 66(13–14), 1888–1913. <https://doi.org/10.1177/0011128719860835>
- Biagi, B., Brandano, M. G., & Detotto, C.** (2012). The effect of tourism on crime in Italy: A dynamic panel approach. *Economics Discussion*, 4(1), 1–24. <https://doi.org/10.2139/ssrn.1994245>. [Q18]
- Bogges, L. N., & Hipp, J. R.** (2016). The spatial dimensions of gentrification and the consequences for neighborhood crime. *Justice Quarterly*, 33(4), 584–613. <https://doi.org/10.1080/07418825.2014.943799>
- Brickell, K., Arrigoitia, M. F., & Vasudevan, A.** (2017). Geographies of forced eviction: Dispossession, violence, resistance. In **K. Brickell, M. F. Arrigoitia, & A. Vasudevan** (Eds.), *Geographies of forced eviction* (pp. 1–23). Palgrave Macmillan. [Q19]
- Buil-Gil, D., Moretti, A., & Langton, S. H.** (2021). The accuracy of crime statics assessing the impact of police data bias on geographic crime analysis. *Journal of Experimental Criminology*, 1–27 <https://doi.org/10.1007/s11292-021-09457-y>. [Q20]
- Cocola-Gant, A.** (2016). The production of Barcelona as a space of consumption. Gentrification, tourism and class struggle. In **J. Rodríguez Madela, O. Salguero Montaña, & A. Sánchez Cota** (Eds.), *Cartografía de la ciudad capitalista. Transformación urbana y conflicto social en el Estado Español* (pp. 31–56). Traficantes de sueños. [Q21]
- Cocola-Gant, A.** (2019). Gentrificación turística. In **E. En Cañada & I. Murray** (Eds.), *Turistificación global. Estudios críticos en turismo* (pp. 291–308). Icaria.
- Cocola-Gant, A., & López-Gay, A.** (2020). Transnational gentrification, tourism and the formation of 'foreign only' enclaves in Barcelona. *Urban Studies*, 57, 3025–3043. <https://doi.org/10.1177/0042098020916111>
- Cohen, L., & Felson, M.** (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44(4), 588–608. <https://doi.org/10.2307/2094589>
- Crespi-Vallbona, M., & Mascarilla-Miró, O.** (2018). La transformación y gentrificación turística del espacio urbano. El caso de la Barceloneta (Barcelona). *EURE (Santiago)*, 44(133), 51–70. <http://dx.doi.org/10.4067/s0250-71612018000300051>
- Davidson, M.** (2014). The impossibility of gentrification and social mixing. In **G. Bridge, T. Butler, & L. Lees** (Eds.), *Mixed communities. Gentrification by stealth?* (pp. 233–251). Policy Press.
- Drawve, G., Kennedy, L. W., Caplan, J. M., & Sarkos, J.** (2020). Risk of robbery in a tourist destination: A monthly examination of Atlantic city. *New Jersey. Journal of Place Management and Development*, 13(4), 429–446. <https://doi.org/10.1108/JPMD-07-2019-0064>. [Q24][Q25]
- Davis, D. E.** (2007) The Giuliani Factor: Delinquency, "Zero Tolerance" in Police Work, and the Transformation of the Public Sphere in Downtown Mexico City. *Estudios Sociológicos*, 25(75), 639–681. [Q22][Q23]
- Drawve, G., Kennedy, L. W., Caplan, J. M., & Sarkos, J.** (2020). Risk of robbery in a tourist destination: a monthly

examination of Atlantic City, New Jersey. *Journal of Place Management and Development*, 13(4), 429–446. <http://dx.doi.org/10.1108/JPMD-07-2019-0064>

**Frank, S.** (2021). Gentrification and neighborhood melancholy. Collective sadness and ambivalence in Dortmund's Hörde district. *Cultural geographies*, 28(2), 255–269. <http://dx.doi.org/10.1177/1474474020987253>

**González-Leonardo, M., Recaño, J., & López-Gay, A.** (2020). Migratory selectivity and regional accumulation of qualified human capital in Spain. *Journal of Regional Research*, 2020/2(47), 113–133. <https://doi.org/10.38191/iirr-jorr.20.013> [Q26]

**Gotham, K. F.** (2005). Tourism gentrification: The case of New Orleans' Vieux Carre (French Quarter). *Urban Studies*, 42(7), 1099–1121. <https://doi.org/10.1080/00420980500120881>

**Hayes, A. F.** (2018). *Introduction to mediation, moderation and conditional process analysis*. The Guilford Press.

**Hernández, A., & Andreeva, S.** (2016). Markets, museums or malls? The gentrification of municipal markets in Barcelona and Madrid. *EntreDiversidades*, 6(6), 143–173. <https://doi.org/10.31644/ED.6.2016.a05> [Q27][Q28]

**Hilbe, J. M.** (2017). El análisis estadístico de los datos de recuento [The statistical analysis of count data]. *Cultura y Educación*, 29(3), 409–460. <https://doi.org/10.1080/11356405.2017.1368162>

**Jover, J., & Díaz-Parra, I.** (2019). Gentrification, transnational gentrification and touristification in Seville, Spain. *Urban Studies*, 57, 3044–3059. <https://doi.org/10.1177/0042098019857585>

Levine, N. (2015). *CrimeStat: A spatial statistics program [Q29] for the analysis of crime incident locations (v.4.02)*. Ned Levine & Associates and the National Institute of Justice.

**Ke, L. T., O'Brien, D., & Heydari, B.** (2021). Airbnb and neighborhood crime: The incursion of tourists or the erosion of local social dynamics? *PLoS ONE*, 16(7), e0253315. <https://doi.org/10.1371/journal.pone.0253315>

**Kirk, D. S., & Laub, J. H.** (2010). Neighborhood change and crime in the modern metropolis. *Crime and Justice*, 39(1), 441–502. <https://doi.org/10.1086/652788>

**Kornhauser, R.** (1978). *Social sources of delinquency. An appraisal of analytic models*. University of Chicago Press.

**Kreager, D.A.** (2011). Urban Revitalization and Seattle Crime, 1982–2000. *Social Problems*, 58(4), 615–639. <https://doi.org/10.1525/sp.2011.58.4.615>

**López-Gay, A.** (2018). Change in the social composition and gentrification in Barcelona: a look through the migratory and residential flows. *Papers: Regió Metropolitana de Barcelona*, 0(60), 80–93. [Q30][Q31]

**López-Gay, A., Andújar-Llosa, A., & Salvati, L.** (2020). Residential Mobility, Gentrification and Neighborhood Change in Spanish Cities: A Post-Crisis Perspective. *Spatial Demography*, 8(3), 351–378. <http://dx.doi.org/10.1007/s40980-020-00069-0>

**López-Gay, A., Cocola-Gant, A., & Paolo-Russo, A.** (2020). Urban tourism and population change: Gentrification in the age of mobilities. *Population, Space and Place*, 1–17. <https://doi.org/10.1002/psp.2380> [Q32]

**López-Gay, A., Sales i Favà, J., Solana Solana, M., & Peralta, A.** (2019). Measuring gentrification processes in Barcelona and Madrid: a methodological proposal. *International Conference Virtual City and Territory*, 0(13), 1–18. <https://doi.org/10.5821/ctv.8680> [Q33]

**López-Gay, A.-L., & Salvati, L.** (2020). Residential mobility, gentrification and neighborhood change in Spanish cities: A post-crisis perspective. *Spatial Demography*, 8(3), 351–378. <https://doi.org/10.1007/s40980-020-00069-0> [Q34] <sup>2</sup>

**MacDonald, John M., & Stokes, Robert J.** (2020). Gentrification, Land Use, and Crime. *Annual Review of Criminology*, 3(1), 121–138. <http://dx.doi.org/10.1146/criminol.2020.3.issue-1>

**Maldonado-Guzmán, D. J.** (2020). Airbnb and crime in Barcelona (Spain): Testing the relationship using a geographically weighted regression. *Annals of GIS*. <https://doi.org/10.1080/19475683.2020.1831603> [Q35]

**Mataković, H.** (2020). Seasonality of crime in Croatia: A relationship with tourism. *Tourism: An International Interdisciplinary Journal*, 68(2), 195–206. <https://doi.org/10.37741/t.68.2.7>

**Mawby, R.** (2010). Property crime and tourists. In **D. Botterill & T. Jones** (Eds.), *Tourism and crime: Key themes* (pp. 21–36). Goodfellow Publisher.

**McDonald, S.** (1986). Does gentrification affect crime rates? *Crime and Justice*, 8, 163–201. <https://doi.org/10.1086/449122>

**Montolio, D., & Planells-Struse, S.** (2016). Does tourism boost criminal activity? Evidence from a top touristic country. *Crime and Delinquency*, 62(12), 1597–1623. <https://doi.org/10.1177/0011128713505489>

**Observatorio del Turismo en Barcelona.** (2020). *Informe de la actividad turística 2019*.

[https://ajuntament.barcelona.cat/turisme/sites/default/files/iat19\\_0.pdf](https://ajuntament.barcelona.cat/turisme/sites/default/files/iat19_0.pdf)

**Oshan, T. M., Li, Z., Kang, W., Wolf, L. J., & Fotheringham, A. S.** (2019). Mgwr: A Python implementation of multiscale geographically weighted regression for investigating process spatial heterogeneity and scale. *ISPRS International Journal of Geo-Information*, 8(6), 269. <https://doi.org/10.3390/ijgi8060269>

**Park, M., & Stokowski, P. A.** (2009). Social disruption theory and crime in rural communities: Comparisons across three levels of tourism growth. *Tourism Management*, 30(6), 905–915. <https://doi.org/10.1016/j.tourman.2008.11.015>

**Pelfrey, W. V.** (1998). Tourism and crime: A preliminary assessment of the relationship of crime to the number of visitors at selected sites. *International Journal of Comparative and Applied Criminal Justice*, 22(2), 293–304. <https://doi.org/10.1080/01924036.1998.9678624>

**Pizam, A.** (1982). Tourism and crime: Is there a relationship? *Journal of Travel Research*, 20(3), 7–10. <https://doi.org/10.1177/004728758202000302>

**Recher, V., & Rubil, I.** (2020). More tourism, more crime: Evidence from Croatia. *Social Indicators Research*, 147(2), 651–675. <https://doi.org/10.1007/s11205-019-02160-6>

**Rengert, G. F., & Lockwood, B.** (2009). Geographic units of analysis and the analysis of crime. In **D. Weisburd, D. Bruinsma, & W. Bernasco** (Eds.), *Putting crime in its place. Units of analysis in geographic criminology* (pp. 109–121). Springer.[Q36]

**Richards, G.** (2017). The consumption of tourism in postmodernity or in liquid modernity. *Oikonomis*, (7), 5–11.

**Robles, J.** (2008). Urban commerce in metropolitan spaces. *Distribución y Consumo*, 19, 19–31.[Q37][Q38]

**Roncek, D., & Maier, P. A.** (1991). Bars, blocks and crimes revisited: Linking the theory of routine activities to the empiricism of Hot spots. *Criminology; An interdisciplinary Journal*, 29(4), 725–753. <https://doi.org/10.1111/j.1745-9125.1991.tb01086.x>

**Roth, J. J.** (2021). Home sharing, property crime and disorder. *Safer Communities*, 20(1), 42–56. <https://doi.org/10.1108/SC-04-2020-0015>

**Sampson, R. J., Raudenbush, S. W., & Earls, F.** (1997). Neighborhood and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918–924. <https://doi.org/10.1126/science.277.5328.918>

**Sequera, J.** (2020). *Cool capitalism, tourism and control of urban space*. Madrid: Catarata.

**Shaw, C. R., & McKay, H. D.** (1942). *Juvenile delinquency and urban areas*. University of Chicago Press.

**Sigler, T., & Wachsmuth, D.** (2020). New directions in transnational gentrification: Tourism-led, state-led and lifestyle-led urban transformations. *Urban Studies*, 57(15), 3190–3201. <https://doi.org/10.1177/0042098020944041>

**Smith, C. M.** (2014). The Influence of Gentrification on Gang Homicides in Chicago Neighborhoods, 1994 to 2005. *Crime & Delinquency*, 60(4), 569–591. <http://dx.doi.org/10.1177/0011128712446052>

**Smith, N.** (1979). Toward a theory of gentrification. A back to the city movement by capital, not people. *Journal of the American Planning Association*, 45(4), 538–548. <https://doi.org/10.1080/01944367908977002>

Weisburd, D., Bruinsma, G., & Bernasco, W. (2009). Units of analysis in geographic criminology: Historical development, critical issues and open questions. In **D. Weisburd, D. Bruinsma, & W. Bernasco** (Eds.), *Putting crime in its place. Units of analysis in geographic criminology* (pp. 3–33). Springer.[Q45]:

**Sorando, D., & Ardura, A.** (2016). *First we take Manhattan. The creative destruction of cities*. Cataratas.[Q41]

**Sorando, D., & Ardura, A.** (2018). Processes and dynamics of gentrification in Spanish cities. *Papers: Regió Metropolitana de Barcelona*, (60), 34–47.[Q39][Q40]

**Steinmetz-Wood, M., Wasfi, R., Parker, G., Bornstein, L., Caron, J., & Kensten, Y.** (2017). Is gentrification all bad? Positive association between gentrification and individual's perceived neighborhood collective efficacy in Montreal, Canada. *International Journal of Health Geographics*, 16(24), 1–8. <https://doi.org/10.1186/s12942-017-0096-6>

**Torkington, K.** (2010). Defining lifestyle migration. *Dos Algarves – Revista Da ESGHT/UAIG*, (19), 99–111.[Q42]

**Valli, C.** (2020). Emotional displacement. Misrecognition, symbolic violence and loss of place. In **G. Baeten, C. Listerborn, M. Persdotter, & E. Pull** (Eds.), *Housing displacement: Conceptual and methodological issues* (pp. 67–81). Routledge.[Q43]

**Van Holm, E. J., & Monaghan, J.** (2021). The relationship of Airbnb to neighborhood calls for service in three cities. *Cities*, 116, Article 103241. <https://doi.org/10.1016/j.cities.2021.103241>

**Van Tram, X., & Bridges, F. S.** (2009). Tourism and crime in European nations. *E-Review of Tourism Research (eRTR)*, 7(3), 52–67.[Q44]

**Van Wilsem, J., Wittebrood, K., & De Graaf, N. D.** (2006). Socioeconomic dynamics of neighborhoods and the risk of crime victimization: A multilevel study of improving, declining, and stable areas in the Netherlands. *Social Problems*, 53(2), 226–247. <https://doi.org/10.1525/sp.2006.53.2.226>

**Vergara-Erices, Luis.** (2020). Coexistence and conflicts in mixed income neighbourhoods. *Bitácora Urbano Territorial*, 31(1), 41–52. <http://dx.doi.org/10.15446/bitacora.v31n1.87789>

**Wachsmuth, D., & Weisler, A.** (2018). Airbnb and the rent gap: Gentrification through the sharing economy. *Environment and Planning A*, 50(6), 1147–1170. <https://doi.org/10.1177/0308518X18778038>

**Weisburd, D., Groff, E. E., & Ming Yang, S.** (2012). *The criminology of place: Street segments and our understanding of the crime problem*. Oxford University Press.

**Zaar, M.** (2019). Gentrification and urban tourism. How are they articulated? *Revista Electrónica de Recursos En Internet Sobre Geografía y Ciencias Sociales*, (1), 1–32.[Q46][Q47]

**Zhang, J., & Xiang, G.** (2021). Revisiting the relationship between tourism and crime based on a dynamic spatial Durbin model. *Crime & Delinquency*, 1–26. <https://doi.org/10.1177/0011287211064790>[Q48]

Loading [MathJax]/jax/output/HTML-CSS/jax.js