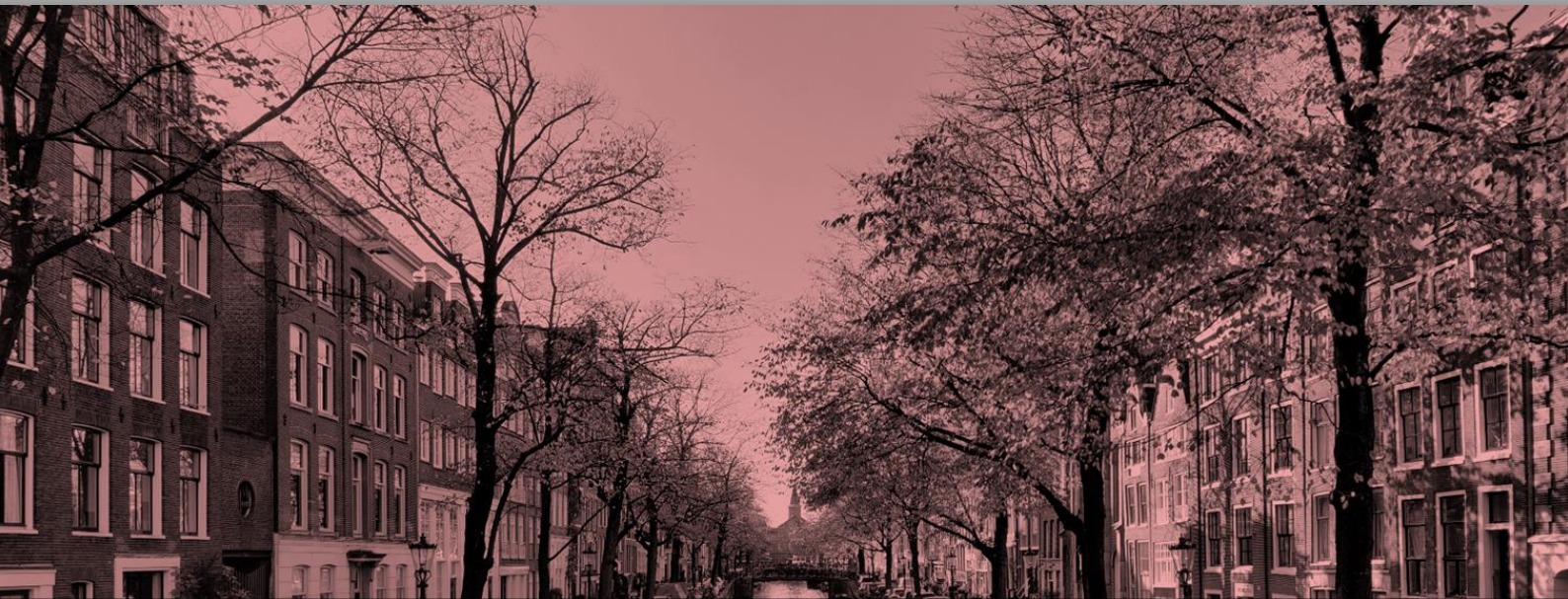


Bachelor Project

The influence of Tourism on the Liveability in the Jordaan neighbourhood, Amsterdam



Name	M.D.J. Doldersum
Student number:	s3438740
Supervisor:	A.J. Imperiale / N.S. Sharma
Study:	Human Geography & Urban and Regional Planning
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1. Summary

Tourism has undergone a drastic change in the year 2020 due to the outbreak of the COVID-19 pandemic. The Jordaan neighbourhood, in Amsterdam, experienced a drop in visitors in 2020. The concept of 'carrying capacity', the tipping point of where a touristic characteristic becomes a nuisance, explains the pressure on society due to tourism in this neighbourhood. To what extent tourism influences the liveability satisfaction in 2020 compared to 2019, will be the main discussion point of this research, with the carrying capacities explaining how. A mixed-method will be used, with the qualitative results functioning as additional supports to the quantitative results. The data was collected through a survey spread out through the study area and interviews with Amsterdam's municipality and the interest group 'Amsterdam Gastvrij'. The qualitative data strengthens the results from the quantitative data. The data set that explains how the physical carrying capacity, the number of tourists, has the most significant influence on liveability satisfaction. This influence weakened from 2019 to 2020. Perhaps more interesting are the capacities that did not influence the liveability satisfaction. The financial and infrastructural carrying capacity have a less direct influence on the residents' daily life than the physical, behavioural, and environmental carrying capacities. This research aims to explain what happens in a year with low tourism figures and point out the carrying capacity that needs consideration.

2. Table of contents

1. Summary	2	- 5.3.1. Quantitative data	11
2. Table of contents	2	- 5.3.2. Qualitative data	11
3. Introduction	3	- 5.4 Quality of the data	11
- 3.1 Background	3	- 5.5 Ethical Considerations	12
- 3.2 Research problem	3	6. Results	12
- 3.3 Structure	4	- 6.1 Quantitative results	12
4. Theoretical Framework	4	- 6.1.1 Discussion	14
- 4.1 Overtourism	4	- 6.2 Qualitative results	15
- 4.2 Carrying capacity	5	- 6.2.1. Resident's preferences	15
- 4.3 Disturbance	6	- 6.2.2. Interviews	16
- 4.4 Liveability	6	- 6.2.2.1 Municipality	16
- 4.5 Conceptual model	7	- 6.2.2.2 Amsterdam Gastvrij	16
5. Methodology	8	- 6.2.3 Discussion	17
- 5.1 Study area	8	7. Conclusions	17
- 5.2 Choice of data collection	9	- 7.1 Strength & Weaknesses	18
- 5.2.1 Quantitative data	9	- 7.2 Recommendations	19
- 5.2.2. Qualitative data	10	8. References	20
- 5.3 Data analysis methods	11		

3. Introduction

3.1 Background

Tourism in 2020 has experienced a drastic change due to the COVID-19 pandemic. Cities that have witnessed the phenomenon of overtourism over the past years suddenly experienced a dip in tourism numbers. In the Netherlands, tourism numbers halved in the first half of 2020 compared to 2019 (CBS, 2020). Visitor numbers in Amsterdam have floundered. Since the beginning of the pandemic outbreak, measurements have been in place. They vary from events with a maximum of 50 people during the summer, to all shops being closed in December (Municipality of Amsterdam 1, 2020). Other countries have advised their residents to not visit The Netherlands, for example, the country of origin of most tourists in Amsterdam, Germany (CBS, 2018), advises against trips towards The Netherlands (Auswärtiges amt, 2020). These measures have had a significant impact on Amsterdam. Moreover, this also applies to the study area, the Jordaan neighbourhood, in the western part of the city centre.

In recent years overtourism became a more researched topic within the academic world. The three-doubling of tourist numbers in Europe from 1980 to 2010 (Benner, 2019) resulted in cities in Europe experiencing the downsides of tourism. Overtourism is a concept which describes the adverse effects of tourism, for example, tourists' presence intruding everyday life. Overtourism is an aspect of tourism that can determine the liveability in a city. The disturbances felt due to tourism can result in frustration endured by the residents. This frustration can lead to residents leaving, protesting, and losing community feeling (Nofre et al. 2018). Amsterdam residents have complained about the 'flood of tourists' in their city, and bottom-up initiatives have been calling for stricter measures to reduce the disturbances encountered due to overtourism (Het Parool, 2017). Amsterdam's municipality and nine other European cities also asked for help to contend overtourism by tackling Airbnb's spread (Municipality of Amsterdam 2, 2019), making this all a complex issue involving multiple levels of government. If tourism affects liveability in Amsterdam has been researched (Municipality of Amsterdam 3, 2020). However, the COVID-19 pandemic caused a situation with a drop in tourism numbers. Researching the resident's perspectives on liveability in 2019 and 2020 gives new insights on liveability. The use of carrying capacities to measure Amsterdam's liveability shows where changes are supposed to be proposed. The different timeframes will make the research relevant in the current situation and explain how a decrease in tourism numbers affects liveability.

3.2 Research problem

This research investigates the positive and negative effects of tourism on liveability satisfaction in Amsterdam's Jordaan neighbourhood. The findings will show if policy changes are inevitable. The research aims to find if there are changes in tourism's influence from 2019 to 2020.

The following research question is used to reach this aim:

"To what extent does tourism influence the resident's liveability satisfaction in the study area in 2020 compared to 2019?"

Following the recent changes due to the COVID-19 pandemic, this subquestion will clarify how this has impacted liveability satisfaction:

"How did the liveability satisfaction in the study area change during the period of undertourism as a result of the COVID-19 pandemic?"

Furthermore, to improve the liveable conditions of the study areas, finding out the strengths and weaknesses will give opportunities for change:

"What elements of liveability could be implemented or improved to increase liveability satisfaction?"

3.3 Structure

The following chapter discusses the theoretical framework. The subheadings will differentiate between the concepts used in this research. The methodology describes the mixed methods approach and how to carry out quantitative and qualitative research. The results section presents quantitative and qualitative results in separate subsections. The results of both will then supplement each other in the conclusion section.

4. Theoretical framework

Amsterdam has one of the highest ratios of tourists per resident in Europe. Per 100 residents, there are 5.3 tourists on average in Amsterdam. Amsterdam's tourist density is far higher than all other major cities in The Netherlands (Municipality of Amsterdam 4, 2019). Amsterdam has become a tourism hotspot in Europe due to its history, architecture, and cultural factors. The cultural and economic factors are at the core of the city's growth; it attracts people to Amsterdam (Dahles, 1998). These factors also attract tourists to the city. Tourism causes a vibrant atmosphere on the streets and helps improve the quality of life economically and socially (Wheeler & Laing, 2008). However, there are also adverse effects of tourism. Once cities reach their capacity, negative impacts become more noticeable, the concept of overtourism applies to this situation.

4.1 Overtourism

Namberger et al. (2019), described the concept of overtourism in the case of Munich. Overtourism is the point where the number of people, their behaviour, and their impact on the environment exceeds an area's capacity. Within the urban area, a limited amount of space and facilities can be used until negative consequences for the city residents emerge.

The concept of overtourism is a term used to describe the negative impact of tourism. However, the use of it is often not justified, since the term is heavily context-based. Problems occur when trying to find solutions to overtourism when stakeholders use different definitions for the concept. Koens, Postma & Papp (2018) use the history of overtourism and the perceptions of stakeholders involved with tourism issues to define overtourism and its complex nature. Overtourism is measured to a certain degree through data, e.g., looking at tourism reports, and noticing overcrowding trends. Overtourism can also be measured through the concept of 'carrying capacity'. Overtourism is used to describe the overflowing of the carrying capacities.

4.2 Carrying capacity

The 'carrying capacity' of a tourist destination is multi-faceted. The paper by Namberger et al. (2019) includes that tourists' numbers are essential in Munich. It discusses how tourists' behavioural problems increase when numbers do and increase the disturbance for residents. However, tolerance levels in different countries, cultures, and cities differ, which led to different results in Munich than the study area for this paper, the Jordaan neighbourhood.

The concept 'carrying capacity' can be defined as the tipping point where the residents' costs exceed the benefits caused by tourism. By looking at the carrying capacity as a multi-faceted concept, different disturbances within an area can be determined. For example, there could be a location where overcrowding occurs, but the environmental consequences are not present due to the tourists being aware of their environmental impact. The different carrying capacities could measure the costs and benefits from the dimensions and classify the degree of disturbance experienced by residents. The different types of carrying capacities based on the paper by Namberger et al. (2019) are;

The physical carrying capacity is the number of tourists and their distribution around the city. This capacity describes how large the sheer quantity of tourists can be before negative effects are experienced.

The environmental carrying capacity describes to what extent tourists cause additional polluting of the environment around them. From the various types of environmental impacts of tourism (Kapur, 2018), the polluting of the neighbourhood will be considered due to this type of pollution being the most directly experienced by residents.

The social carrying capacity is the capacity that explains the relationship between residents and tourists. The survey is gathered towards the residents; therefore, this capacity is explained through residents' perspective on the tourists' behaviour. Due to the focus being on tourists' behaviour, the name '**the behavioural carrying capacity**' is preferred in this research.

The financial carrying capacity describes if residents benefit financially from the presence of tourists in their neighbourhood. Touristic presence could give residents opportunities to open up a shop. However, it could also cause the prices to go up by tourists spending more on average products than the neighbourhood residents, leading to tourism led inflation, on the local or national scale and short term or long term scale. (Shaari et al., 2018)

The infrastructural carrying capacity describes if the neighbourhood can host all tourists visiting. Are there enough hotels and hostels? Is there a necessity for companies like Airbnb, or do these cause a burden to residents and the hotel branch?

Lastly, the perceptual carrying capacity will not be used in this research because it is a carrying capacity affecting tourists' experience and not the liveability experienced by residents. Therefore, it cannot be used to determine the disturbance experienced by residents of the study area.

4.3 Disturbance

'Disturbance' in the context of overtourism is the consequences that residents experience when the carrying capacity in their area of residence is exceeded. Doxey's irritation model (1975) categorises disturbance caused by tourism in 4 stages; euphoria, apathy, annoyance, and antagonism. In the first stage residents are excited tourists come to their place of residence. However, during the last phase, residents express their annoyance and want their governing body to tackle tourists' influx and their behaviour. Disturbance in Amsterdam will differ from the disturbance experienced in other cities. Examples of disturbances in Amsterdam are, among others: tourist behaviour late at night lack of shops compared to touristic shops, and the number of hotels within the city centre. These disturbances make the residents feel not at home in their city (Municipality of Amsterdam 5, 2020). The effects of tourism are heavily contextual concepts. Therefore, it is crucial to take into account the context of a city. For example, Amsterdam's history and culture, a place of commerce and internationalisation since the Golden Age, caused tourists' influx. For example, neighbourhoods like Barcelona's 'La Barceloneta' were influenced by urban planning since the 1950s to turn it into a leisure

and tourist-oriented area (Nofre et al. 2018). The planning history can determine how it gathers to tourists, and what disturbances come along with them. Amsterdam experienced this due to culture and history, allowing more liberal policies, which led to a chaotic city's image, with a nightlife full of intoxication and lust (Dahles, 1998). Due to planning being a product from governmental bodies, residents' dissatisfaction can also determine the government's choices in the future. Developing strategies that satisfy both residents and tourists demands communication with them and listening to their wishes (Neuts & Vanneste, 2020). Finding the balance will preserve tourism while also keeping the liveability satisfaction high.

4.4 Liveability

'Liveability' is a concept that is defined in various ways. For this research, liveability criteria are ordered in tangible and intangible elements. Tangible elements are the physical features that make a place liveable/vibrant. These physical elements are amenities, like cultural places, restaurants, bars, and more, that improve life quality and attract people to live there. Some examples of Amsterdam's tangible elements are the cultural buildings and restaurants/bars (Trip, 2007). The intangible elements are non-physical. The relationship between the neighbourhood residents and the culture and history of this location defines intangible elements (Wheeler & Laing, 2008). Some examples of Amsterdam's intangible elements are tolerance, safety, and diversity in the city (Trip, 2007). Some of these elements are enhanced by tourism. Tourism can bring in diversity and create a vibrant street life (Wheeler & Jiang, 2008). A good coexistence between tourists and their surroundings is vital for the continued existence of tourism in Amsterdam. Sustainable tourism developments focus on connecting residents and tourists. Making tourists aware of their surroundings and letting residents participate more in the tourism industry could improve their relationship. Sustainable tourism motivates tourists to alter their behaviour for the better (Mira et al., 2019).

Tourism can affect both tangible and intangible elements of liveability. Neuts & Vanneste (2020) have looked into the residents' preferences to manage the coexistence of tourists and residents in Amsterdam. This study's results are an overview of the preferences that, according to the residents, make their city more liveable for them and tourists. Residents' preferences should be taken into account by planners, but residents could also make themselves heard through bottom-up initiatives (De Roo & Voogd, 2019). Planning decisions like focussing on the residents' preferences and sustainable tourism could positively influence liveability satisfaction while maintaining high tourism numbers.

Liveability and tourism are broadly researched concepts. However, researching the influence of tourism on liveability while using carrying capacities as indicators will elucidate these concepts in Amsterdam's context. Liveability can be improved by focusing on the carrying capacity, which is exceeded the most. This will allow the policy to narrow down its scope to the capacity, affecting liveability the most. With the current pandemic, there is a whole new situation that exemplifies the effects of a drastic change in tourist numbers. This change also shows how it is crucial to keep the balance between making the city liveable for residents, while also attracting a sufficient number of tourists to maintain the tourism industry.

3.5 Conceptual model

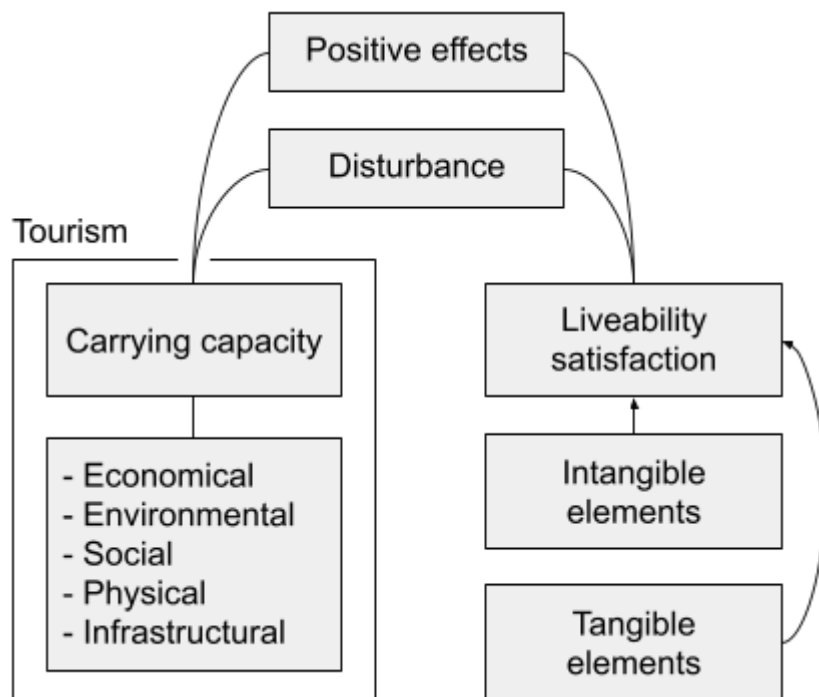


Figure 1. Conceptual model (Source: This paper)

The conceptual model (figure 1) puts the relationship between the concepts into perspective. Liveability is a concept that is influenced by tourism (Nofre et al., 2018). The presence of tourists leaves a mark behind residents' satisfaction with their neighbourhood. To determine how much liveability satisfaction is affected by tourism, this research looks at tourism's carrying capacity. Every carrying capacity might influence liveability satisfaction to a different extent. This influence might differ between 2019, with standard tourists numbers and 2020, which has fewer tourists than usual due to the COVID-19 pandemic. (CBS, 2020) Therefore, there are two timeframes in the research, 2019 and 2020.

The intangible and tangible elements of liveability are both part of what makes a neighbourhood liveable (Wheeler & Laing, 2008). Therefore, these elements positively influence the liveability and could overcome possible disturbances. Carrying capacities could cause these disturbances if the tipping point has been passed. However, if this is not the case, the positive effects might leave their impression on liveability satisfaction.

Results will show which carrying capacity influences the liveability the most in both years and which carrying capacity had the most significant change in influence from 2019 to 2020. Results will also show which elements are desired by residents to improve liveability satisfaction.

5. Methodology

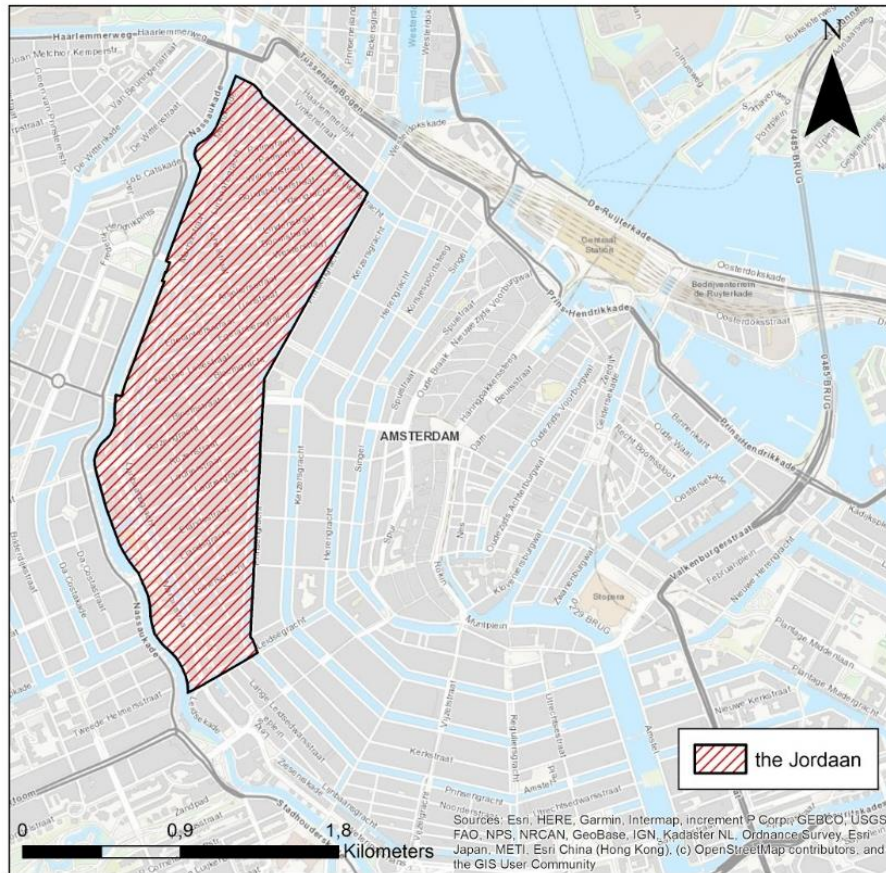


Figure 2. The Jordaan neighbourhood in the city centre of Amsterdam (Kadaster, 2020)

5.1 Study area

The Jordaan neighbourhood has the highest population density in Amsterdam's centre. 19.400 inhabitants live in an area of around 96 hectares (CBS, 2020). It is part of the Amsterdam canal belt, a UNESCO world heritage site (UNESCO, 2010) and the touristic hotspot of Amsterdam. The tourists attracted to the city are relatively international, the city attracts people from all places in the world. There is a balance between day visits and extended stays (Municipality of Amsterdam 6, 2020). Alongside the canals, tourist attractions can be found like the Anne Frank House and the neighbourhood's well-known pubs like 'Cafe Chris', 'Cafe Nol' and 'Rooije Nelis', which reflects the character of the neighbourhood, 'gezellig' (Iamsterdam, 2020). The choice of the Jordaan neighbourhood is based on the highest inhabitants per square kilometre of a neighbourhood within the most touristic area of the city.

5.2 Choice of data collection

5.2.1 Quantitative data

The research uses a mixed-method. Data collection is done by conducting surveys and in-depth interviews. Due to the uncertainties surrounding the COVID-19 pandemic conducting the surveys is done in an alternative way. The survey was distributed through flyers (appendix 4). The survey consisted of general questions about the residents, used as constants within the statistical analysis, and more in-depth questions on tourism experiences.

The questions on tourism consisted of different types of carrying capacities. The survey asked if the following carrying capacities are exceeded in the study area; the physical, environmental, behavioural, financial, and infrastructural carrying capacities. These carrying capacities were discussed in the survey indirectly. The residents were asked statements related to the carrying capacities to ensure that residents with no background information on carrying capacities could quickly answer the question. The responses were ranked on the Likert scale. The Likert scale included five values ranging from 'completely disagree' to 'completely agree'. The results from these questions function as the independent variables. The dependent variable is the liveability satisfaction of the resident. The residents are asked how satisfied they are with the liveability once again on the Likert scale. All the questions were asked twice. Firstly, from the perspective of 2019. Secondly, the questions were repeated within the context of the pandemic in 2020. The results from the different timeframes were compared to see if any changes have occurred.

The residents were asked what characteristics of their neighbourhood they want to see more or improved on the survey. The answers to this question are open-ended so that the residents could fill in their response to this question. Later on, the answers were categorized, to see if specific characteristics are in demand by the residents to determine possible solutions to creating a better neighbourhood.

In total 2000 flyers have been handed out, the result was a sample size of 131 respondents. On the 7th of November, flyers were put through the letterboxes in the Jordaan neighbourhood. Every street was crossed, and randomly selected residential building got a flyer through the letterbox. The data is collected and stored online through Google Forms. Google Forms is the most convenient method to collect quantitative data online because it is free, only accessible through the researcher's account, and the possibility of exporting the data to Excel for further analysis. The questions from the survey were transformed into the following variables (table 1), for both years:

Variable	Label	Measure
Liveability	Are you satisfied with the liveability in the neighbourhood?	Dependent ordinal variable
Tourism Influence	Tourism changed liveability satisfaction.	Independent ordinal variable
Physical capacity	I am happy with the number of tourists roaming the streets of the neighbourhood.	Independent ordinal variable
Environmental capacity	Tourists pollute the streets and canals to an acceptable extent.	Independent ordinal variable
Behavioural capacity	The behaviour of tourists is better than the behaviour of the residents.	Independent ordinal variable
Financial capacity	I do profit economically from the tourists visiting the neighbourhood.	Independent ordinal variable
Infrastructural capacity	The neighbourhood is capable of hosting the tourists staying here (in hotels, BnB etc.).	Independent ordinal variable
Gender	The gender of the respondents.	Dummy variable, split into GenderMale, GenderFemale & GenderOther.
Age	The age of the respondents.	Constant ratio variable
Residing	The years that the respondents resided in the neighbourhood.	Constant ratio variable

Table 1. *Variables included in the quantitative research* (Source: this paper)

5.2.2. Qualitative data

Interviews were conducted to get a perspective from the different stakeholders regarding the tourism policy. To get these perspectives, the president of the interest group for B&B (Bed & Breakfast) holders and vacation rental, 'Amsterdam Gastvrij', was interviewed and two employees from Amsterdam's municipality. The preferences of the residents were collected from the survey through an open question.

The interviews are semi-structured. Due to the interviewees being knowledgeable about the topic, explanations about the topic are unnecessary. For every interview, there were changes made to the semi-structured interview guide to ensure the relevant questions will be asked to the right person. A semi-structured interview is also a preferred method because interviewees can give more insights about their expertise working on this topic (Longhurst, 2016).

5.3 Data analysis methods

5.3.1. Quantitative data

The tests used are the multiple linear regression analysis, to put the independent variables of the carrying capacities against the dependent variable of liveability. The multiple linear regression is not the optimal test for an ordinal dependent variable. However, multiple independent variables are ranking the five different carrying capacities. Therefore, it is possible to use an ordinal variable as the dependent variable (Lubke & Muthen, 2004).

The liveability satisfaction is also used to perform the 'Wilcoxon signed-rank test' to see differences between the different timeframes. A non-parametric test was used due to '2 sample t-test' not being a good fit for ordinal data. This test aims to see if the liveability changed during the pandemic or not.

5.3.2. Qualitative data

Residents are questioned which tangible or intangible elements they appreciate the most in the neighbourhood. To order their preferences, Excel was used to categorise them manually.

The interview data was analysed through content analysis with the use of coding themes and categories being recognised. There are some themes taken into consideration for the interview guide, for example, COVID-19, policy and communication with residents. Therefore, a deductive approach was adopted to the analysis. However, interviewees might talk about other themes or talk about a theme at a different time during the interview, which resulted in an inductive approach for coding.

5.4 Quality of the data

Carrying capacity has been criticized for measuring liveability satisfaction due to its focus on tourism numbers (Koens, Postma & Papp, 2018). However, by comparing liveability satisfaction with carrying capacities, it is possible to determine which capacities influence liveability satisfaction the most. The relationship between these variables will use absolute numbers to develop the relative importance of the carrying capacities (Prideaux et al., 2006). Using a survey for this is the best way to measure people's perceptions about a topic like liveability (McLafferty, 2016).

The interview data from the interview with the Municipality of Amsterdam is based on notes rather than recordings. This was due to a misunderstanding between the researcher and the interviewees. The Municipality employees did the interview recording as they wanted to record it themselves. However, the recording ended up being only accessible from the municipality's online workspace, resulting in the recording becoming unavailable for the researcher. However, some notes were made during the interview and directly afterwards. Therefore, the interview could still be used as a source of information for this research.

5.5 Ethical considerations

The data collection needs to follow the COVID-19 pandemic measurements. Therefore, to collect quantitative data, flyers will be used. Handing out flyers is the chosen sampling method due to ensuring a socially distanced environment while also gathering many respondents. The residents can easily choose not to participate in the survey if they wish to; there is no pressure from a researcher at the door. For example, this could happen if the study area is over-researched or due to the subject being too emotional to the residents. If this is the case, the residents' opinions will be respected. On the flyer, an email was presented to the respondents if they have any questions about what will happen with the data while ensuring that their data will not be used for other purposes. The respondents were not asked for personal details, except their age and how long they have lived in the neighbourhoods. This data will be valuable as a constant and a descriptive statistic for the research. This data will also not delve deep into the respondent's privacy; if the respondent feels like this is the case, the respondent can quickly stop filling in the survey as these questions are presented at the beginning of the survey.

The role of the researcher was ensured in a consent form in the case of qualitative data. Participants were asked at the start of the interview if they agree with the statements made in the consent form. The questions posed were as objective as possible. In this case, with two stakeholders with different interests, some questions were asked to both stakeholders without any information given on the other stakeholder's answer to ensure objectivity and confidentiality.

6. Results

6.1 Quantitative results

The survey gathered a total of 131, of which 129 were used for the multiple linear regression. Table 2 shows descriptive statistics. There are more males than females and three people who did not want to specify their gender in the dataset. The average age of the respondents is around 54. the median is slightly above the mode of 51; this means that the respondents are clustered towards the older side. The average time that people have lived in the Jordaan neighbourhood is around 21 years. Some respondents only lived for one year in the neighbourhood, but some outliers have lived 68 years in the Jordaan neighbourhood.

Variable	Mean	Median	Minimum	Maximum
Gender	0.60	1 (male)
Age	54.44	58	19	83
Residing (number of years)	21.37	21	1	68

Table 2. *Descriptive statistics for the variables gender, age and residing.* (Source: This paper)

To answer the research question "To what extent does tourism influence residents' liveability satisfaction in the study area in 2020 compared to 2019?", the Wilcoxon signed-rank test was

performed. With an asymptotic significance (2-tailed), the test results are significant. In 2020 there were 80 ties compared to 2019, 41 positive ranks and 10 negative ranks out of 131. Therefore, it could be said that there was an increase in liveability satisfaction of residents in the study area in 2020 compared to 2019. The null-hypothesis, **H0 = "In the population, there is no difference between the median liveability satisfaction between 2019 and 2020."** can be denied.

The multi-linear regression performed on the sub-question: "*How did the liveability satisfaction in the study area change during the brief period of undertourism as a result of the COVID-19 pandemic?*" was done twice for both the years 2019 and 2020.

The analysis of variance of the two tests were both significant. Therefore it can be concluded that the null-hypothesis: **H0 = "In the population, there is no linear relationship between the liveability satisfaction and the independent variables"** can be denied. However, for the multiple-linear regression, the magnitude of these differences, or if these differences are significant for all independent variables is more important than if the whole model is significantly different.

For 2019, the following coefficients came out of the multiple linear regression:

Independent variable	Unstandardised B	Standardised coefficient Beta	Significance
Constant	2.722	...	0.000*
Male ¹	0.222	0.115	0.137
Other	0.239	0.038	0.611
Age	0.001	0.024	0.820
Residing	-0.002	-0.034	0.757
Physical capacity	0.376	0.490	0.000*
Environmental capacity	0.186	0.227	0.015
Behavioural capacity	-0.288	-0.281	0.002
Financial capacity	-0.039	-0.042	0.591
Infrastructural capacity	0.101	0.121	0.180

Table 3. Multiple linear regression 2019 (Source: This paper)

The linear relationship between the independent variables physical capacity, environmental capacity and behavioural capacity and the dependent variable liveability is significant. Therefore, it can be said that there is a linear relationship between the independent variables (individually) and the dependent variable of liveability. This does not exclude any other relationships between independent and dependent variables, excluding any other linear relationships. The physical capacity's standardised coefficient has the highest score of 0.490, which means that it influenced the dependent variable the most in 2019.

¹ The variable 'Female' is the reference category for the variables 'Male' and 'Other'

For 2020, the following coefficients came out of the multiple linear regression:

Independent variable	Unstandardised B	Standardised coefficient Beta	Significance
Constant	3.062	...	0.000*
Male	0.077	0.045	0.575
Other	-0.814	-0.145	0.075
Age	-0.001	0.012	0.914
Residing	-0.009	-0.172	0.132
Physical capacity	0.255	0.328	0.001
Environmental capacity	0.213	0.280	0.003
Behavioural capacity	-0.110	-0.121	0.159
Financial capacity	-0.036	-0.042	0.606
Infrastructural capacity	-0.022	-0.032	0.727

Table 4. Multiple linear regression 2020 (Source: This paper)

The linear relationship between the independent variables physical capacity and the environmental capacity and the dependent variable liveability is significant. Therefore, it can be said that there is a linear relationship between the independent variables (individually) and the dependent variable of liveability. This does not exclude any other relationships between independent and dependent variables, excluding any other linear relationships. The standardised coefficient of the physical capacity has the highest score of 0.328, which means that it influenced the dependent variable the most in 2020.

6.1.1. Discussion Quantitative Data

The behaviour capacity no longer has a significant linear relationship with the dependent variable. The change in physical capacity is the highest. It went from a standardised coefficient of 0.490 to a standardised coefficient of 0.328. That is a change of -0.162. Therefore, the carrying capacities had a change in influence on the liveability satisfaction with the physical carrying capacity having the most remarkable change in influence. Therefore, it can be said that the influence of tourism on liveability satisfaction has changed from 2019 to 2020. Both the results from the Wilcoxon Signed Rank test and the Multiple Linear Regressions support this statement.

6.2 Qualitative results

6.2.1. Resident's preferences

All individual respondents were asked what their preferences are for changes in the neighbourhood. This question's responses were put into different categories, except individual complaints that did not fit in a category. Discontent about tourists that could have been expressed through other questions was not taken into account.

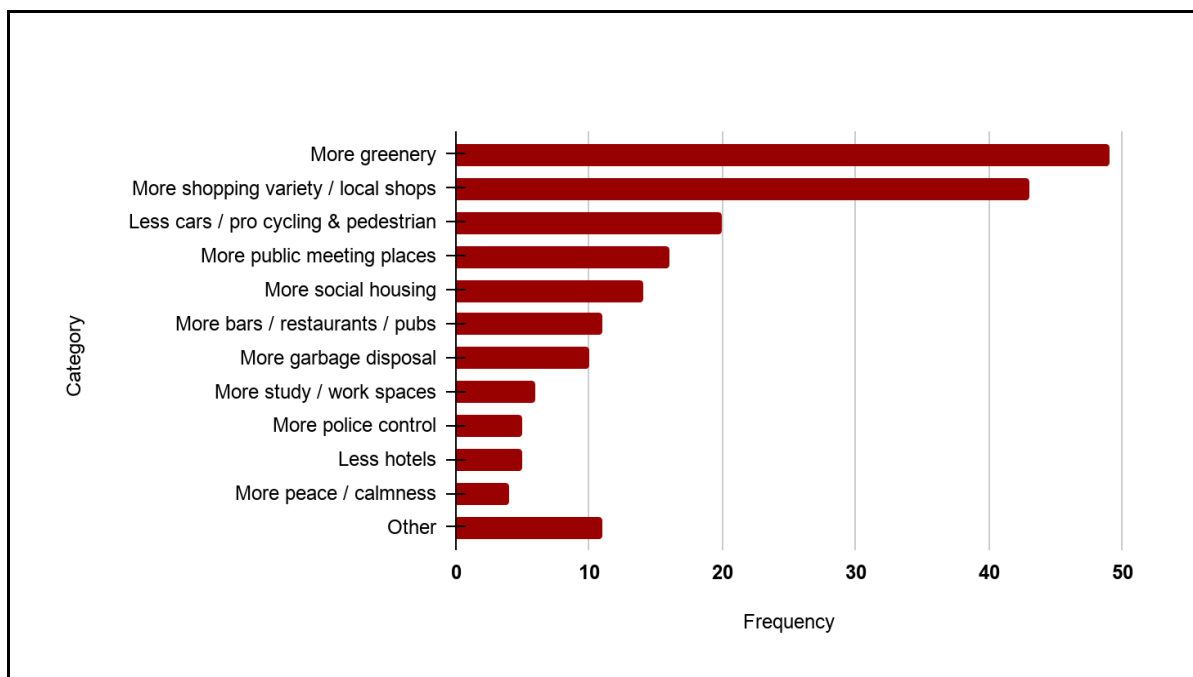


Table 5. Frequency of categories of liveable elements mentioned by respondents (Source: This paper)

Table 5 shows which respondents most frequently mentioned category. The category that was most often mentioned was 'greenery'. The respondents varied in their demand for greenery; some wanted green patches; others wanted parks. The respondents also wanted smaller shops like butchers and bakeries, compared to a supermarket. Respondents also disliked the touristic shops and shops gathered towards ex-pats and young professionals. Outside of these two most often mentioned categories, people also prefer more meeting places and fewer cars. Quite noticeable is the desire for social housing and the link that the respondents make with the neighbourhood's historical past of being a working-class neighbourhood (Municipality of Amsterdam 7, 2020).

The dominance of tangible elements is evident. However, this could be explained through these tangible elements being implemented top-down, while the intangible elements might be coming forward from bottom-up initiatives (De Roo & Voogd, 2019).

6.2.2. Interviews

6.2.2.1 Municipality of Amsterdam

The interviewees from Amsterdam's municipality were the area coordinator 'Centrum West', Sabine van der Snoek, and 'Gebiedsmakelaar' of the northern part of the Jordaan neighbourhood, Younes Zian. Van der Snoek works with multiple regional teams from the municipality that contact entrepreneurs and residents of neighbourhoods and voices their preferences and complaints towards the local government. Zian is one of the people inside this regional team. He is focussed on the northern part of the Jordaan neighbourhood. Even though Zian works for the municipality for a few months as a trainee, he already managed to get an idea of the neighbourhood's good and bad sides.

During the interview, the main focus was on the municipality's policy papers 'Stad in Balans' and 'Aanpak Binnenstad' (Municipality of Amsterdam 5, 2020). The project, 'Stad in Balans', is now transferred to the 'Aanpak Binnenstad' project. However, there are currently still active policies coming from the 'Stad in Balans' program. These policies have been put in place in 2018 and will be until 2022 and try to improve Amsterdam's liveability and limit tourism's harmful effects. Van der Snoek thought it was difficult to recognise if the successes were down to the lack of tourists or down to the policy. Zian confirmed this year has been different from the lack of tourism in the city, but that on the bright side, more residents in the city had the opportunity to explore the city themselves. So far, the 'Stad in Balans' program's greatest successes is maintaining the diversity in shops. The city wants to offer a great variety in types of shops, and not only shops gathered towards tourists. This has already proven to be a success in the Jordaan neighbourhood. According to Zian, it is essential to maintain this diversity and keep local shops instead of big chain stores. B&B/Vacation rental was another topic in the policy, and Van der Snoek mentioned how spreading the B&B/Vacation rental throughout the city improved the spread of tourists, limiting the overflowing of the physical capacity in neighbourhoods and the infrastructural capacity.

6.2.2.2 Amsterdam Gastvrij

The interviewee from Amsterdam Gastvrij was Tim Klein Haneveld. Klein Haneveld is the chairman of Amsterdam Gastvrij since the organisation was founded in 2017. Amsterdam Gastvrij is an organisation that informs and comes up for the rights of B&B owners and 'vakantie verhuurders' (vacation rental), 'vacation rental' is when the owner of the house goes on holiday and rents out his place during their holiday. The organisation's fragmented branch was brought together to express their voice towards the municipality and the media. Klein Haneveld is also an owner of a B&B himself.

There are some disagreements between the organisation and the municipality. The municipality has put measures on the B&B/vacation rental branch by limiting its growth in the city. Klein Haneveld thinks that B&B hosts the tourists that the municipality desires. According to Klein Haneveld, Jan van de Borg, a professor at the University of Leuven, explains that the municipality's desired tourists are being pushed away by the municipality's plans. Klein Haneveld argues that tourists, at least from experience in his B&B, might have a better tie with the local entrepreneurs due to the hosts' recommendations and the hosts being a part of the community.

The communication between Amsterdam Gastvrij and the municipality of Amsterdam is present on multiple political levels. However, instead of reacting to policies on issues that matter to Amsterdam Gastvrij, Klein Haneveld wishes that there was a possibility to be involved in the policy-making process in an earlier stage. This could be an opportunity for the municipality to incorporate entrepreneurs' desires in the tourism industry at an earlier stage.

The pandemic had much influence on the branch, according to Klein Haneveld. Bookings were cancelled since March, and the short period between the two waves of the pandemic was insufficient to uphold many B&Bs and vacation rental places in the city. B&Bs were hit harder, due to vacation rental places being allowed to rent the place for a maximum of 30 days a year compared to no limit for B&Bs. Klein Haneveld also sees opportunities thanks to the pandemic. There has been discontent with platforms like Booking.com and Airbnb from members of Amsterdam Gastvrij. Airbnb stopped allowing the host to look into who visits their B&B and give them the chance to cancel the booking if the host expects trouble. Klein Haneveld sees an opportunity to have less dependence on the big platforms and get matters in own hands through a more locally-focused platform, following the example of Peter Boeken in the hotel branch, who started a platform with a more local focus in Amsterdam.

6.2.3 Discussion Qualitative Data

The residents of the Jordaan neighbourhood's preferences do come back in the current policy of the municipality. However, like greenery, the main preferences do not necessarily align with the policy's currently implemented parts. The carrying capacities that influence the liveability the most do return as bullet points in the municipality's policies. The municipality represents the residents' desires, and the area oriented teams are a great tool to get feedback from the community. Therefore, it can be said that the communicative rationale in the policymaking from the governmental body towards the residents is satisfactory. The policies' focus on tackling B&B rental and vacation rental also does not satisfy the branch's entrepreneurs. A solution for that could be to incorporate organisations like Amsterdam Gastvrij earlier on in the policymaking process, find compromises for all parties, and governmental funding towards initiatives like more locally based platforms for B&B and vacation rentals.

7. Conclusion

The extent to which tourism influences residents' liveability satisfaction in the Jordaan neighbourhood decreased in 2020 compared to 2019. This can be explained through COVID-19 pandemic, which has caused a change in travel behaviour due to measures that reduce people's movement. The carrying capacities have changed to what extent they influenced the liveability from 2019 to 2020. Koens, Postma & Papp (2018) considered using the carrying capacities to be suboptimal measuring liveability. However, it proved to be very useful when comparing a paired sample.

Interestingly is the increase in liveability in the same year where tourism numbers decreased. This knowledge, combined with the changes in carrying capacities, could set out future policy plans to ensure a higher liveability satisfaction when tourism numbers are higher than in 2020. For example, through a focus on influential carrying capacities.

The financial and infrastructural carrying capacities had the least influence on liveability satisfaction. The financial carrying capacity effects are more indirect and not as locally based, as tourists' visible presence. The infrastructural carrying capacity could be explained through the density of tourists' accommodation in Amsterdam. As Van der Snoek explained in the interview, the tourists' accommodations in Amsterdam have a high capacity and are spread out. The municipality's data (Municipality of Amsterdam 8, 2020) shows a continuing trend of more hotels and beds being in Amsterdam. With the drop in tourist numbers in 2020, the relationship between the infrastructural capacity and liveability satisfaction became even weaker. The infrastructural carrying capacity

improved in 2020, according to the residents. However, ensuring accommodation that fits tourists' desire should be in place to maintain this. Especially with the municipality's focus on bringing in 'higher quality' tourism, letting an organisation like 'Amsterdam Gastvrij' be part of negotiations might help accommodate these high-quality tourists sustainably. B&Bs often have more personal contact with the tourists compared to hotel staff. Therefore, using B&Bs and vacation rental as a tool from a municipality perspective to encourage sustainable tourism might help achieve tourists' desired behaviour.

The influence of the physical carrying capacity was the highest in both years. However, this influence still decreased. Even with the number of tourists in Amsterdam being way less, the relationship was still in place. An increase in liveability resulted in fewer residents' being content with the physical carrying capacity. With social distancing in place, the physical space might feel more crowded with fewer people than before the pandemic. Noticeable is that the physical carrying capacity was also the most influential in Munich (Namberger et al., 2019). The behavioural carrying capacity had a relatively more significant influence in Munich than in Amsterdam. However, this is explained through the context of the pandemic in 2020 and the city's context.

The liveability in the Jordaan neighbourhood is relatively high. However, the pressure caused by overtourism demands maintaining high liveability satisfaction (Municipality of Amsterdam 3, 2020). Elements of liveability that could be implemented or improved to increase the liveability satisfaction are partially being implemented through the city's policy. The 'Stad in Balans' and 'Aanpak Binnenstad' policies did bring up all the respondents' preferences most frequently mentioned in the survey. However, the 'Stad in Balans' program has been implemented since 2018. So far, it seems like the program has not fully satisfied the residents' needs. However, most residents' preferences, like greenery and a greater variety of shops, are mentioned in the policy. The communicative rationale between the municipality and the residents has proven useful for implementing the residents' preferences (Neuts & Vanneste, 2020). However, to reach this point, the stage of antagonism had to be reached (Doxey, 1975). Protest from residents' through bottom-up initiatives led to implementations from the top down. Compared to, for example, Barcelona (Nofre et al. 2018), Amsterdam has managed to plan according to the needs of the residents, while maintaining relatively high tourist numbers. The current situation is far from perfect; there is still discontent. However, the potential for sustainable tourism in Amsterdam is realistic.

7.1 Strengths and weaknesses

The strength of this research is mostly in the results of the collected data. Many respondents included their preferences quite extensively, which allowed them to be categorised and align them with the municipality's policy. The use of flyers has also proved to be an effective way of collecting data with many responses on the 2000 flyers handed out.

This research's weakness is the lack of the theoretical framework being able to support the qualitative results. Most of the theoretical framework in this research supports the concepts used in quantitative research. However, there are still weaknesses in the process of collecting quantitative data. The wording in the survey might have caused a more positive or negative response on a specific carrying capacity. However, the comparison between 2019 and 2020 validate the results due to the differences between the individual variables. Also, asking people about their opinions on something in the past might cause more bias.

7.2 Recommendations

Future research could be to repeat this research to see how the tourism industry will recover from the lack of tourists during 2020. For example, residents' opinions on the carrying capacities could change to the same extent as 2019. Future research in other cities could also give a greater insight into how the carrying capacities interact with liveability in different contexts. Cities with existing problems regarding overtourism could benefit from doing similar analysis. Also, cities that expect growing tourism numbers could benefit from analysing potential problems and anticipating.

8. References

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