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Waterfront redevelopment and inclusion: a case study of Parque das Nações

Research Step 7: Final Version Bachelor Thesis

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Summary

Shrinking (Western) ports leave many port cities with large-scale urban areas with potential for redevelopment. The research examines the extent to which the design of redeveloped waterfront areas, structured by neo-liberalism, consumerism, and tourism principles, create exclusionary processes. The following central question is posed '*How can spatial functions and (re-)design in the redevelopment area of Parque das Nações in Lisbon, Portugal, contribute to a waterfront area that is accessible and can be used, also for jobs, for all income groups, especially those from Olivais?*'. Parque das Nações, in Lisbon, Portugal, is used as a case study. The study applies quantitative methods to test differences in the intensity of usage of the area, by different income groups. Street surveys have been distributed amongst residents of Olivais, an adjacent neighborhood, and waterfront users. It is found that income cannot predict the intensity of usage of Parque das Nações, including the (direct) waterfront. Yet, usage of private space can predict the intensity of usage of the direct waterfront at Parque das Nações. Olivais residents are generally positive about Parque das Nações, except for the employment aspect. The study concludes that these restructuring principles do not create exclusive waterfronts per se. Nonetheless, port cities should carefully integrate the job market of these areas into their spatial economic fabric.

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1. Introduction

1.1. Background

Many Western ports have been in decline the past decades (Hein, 2016). This development, along with the historical development of the separation of port-related activities and industry from cities, creates a window of opportunity for urban planning and waterfront redevelopment in port cities (Hoyle, 1989). The redevelopment of the waterfront is done according to new, contemporary principles (Charlier, 2013). Many port cities seek an escape in tourism and consumerism to give their waterfront a purpose (Hein, 2016). The port of Lisbon in Portugal has been in decline for the past decades, and like other port cities, the waterfront is restructured according to consumerism and tourism principles too (Santos et al., 2018; Garcia, 2019). One of those redeveloped waterfront areas in Lisbon is Parque das Nações. The area is characterized by an abundance of public space. Contrarily, the area's design and the spatial functions suggest that the area is characterized by exclusivity, in the sense that the functions may only be used by middle- and higher-income groups (Rodríguez et al., 2003). The shopping mall through which one enters Parque das Nações is privatized space. According to Madanipour et al. (1998), physical and mental representations of space may form barriers to access and usage of space. It can be questioned for example, to which degree residents of Olivais, an adjacent neighborhood, make use of the functions of Parque das Nações, on the waterfront in Lisbon.

1.2. Research Problem

The waterfront redevelopment area of Parque das Nações is characterized by exclusivity according to theory: the design of the area suggests and functions in a way that the area is only (meant to be) used by middle- and higher-income groups. The goal of this research is to propose ways in which the waterfront redevelopment area of Parque das Nações, characterized by non-inclusivity, can be converted into a place of inclusivity, especially concerning the residents of the adjacent neighborhood Olivais. Hence, the research tries to answer the following central research question: *How can spatial functions and (re-)design in the redevelopment area of Parque das Nações in Lisbon, Portugal, contribute to a waterfront area that is accessible and can be used, also for jobs, for all income groups, especially those from Olivais?*

The following sub-questions are posed:

1. What functions, and which areas of Parque das Nações, are used by which income groups from Olivais?
2. How does the allocation of private space influence the usage of the waterfront of Parque das Nações for lower-income groups from Olivais?
3. Which alterations to the functions and design of Parque das Nações could contribute to a more inclusive waterfront area, also for the residents of Olivais?

It is expected that the research outcomes will help policymakers of port cities to redevelop their waterfront, characterized by exclusivity, into places of inclusivity. The research will help academia as it researches on a small spatial scale how the theory of redeveloped waterfronts designed according to consumerism, tourism, and neo-liberal principles plays out in practice.

1.3. Structure

Chapter 3 contains the theoretical framework, which includes concepts as exclusion, neo-liberalism, and tourism and consumerism principles, after which Parque das Nações is introduced and discussed. The theory is structured in a conceptual model, after which hypotheses are formulated. Chapter 4 contains the methodology, which includes information about the method, operationalization, sampling strategies, and characteristics of the sample. Chapter 5 contains the results, the first and second sub-questions are discussed in section 5.1, and the third sub-question is discussed in section 5.2. Finally, chapter 6 contains the conclusions, in which the main conclusions largely relate to the first and second sub-questions, the 'Implications' section formulates the answers to sub-question 3 and the main research question. Finally, the conclusion ends with a section on the research's limitations.

2. Theoretical Framework

2.1. Waterfronts and exclusion

2.1.1. Waterfronts

The decline of Western ports an outcome of containerization and decreased international competitiveness (Hein, 2016). Containerization has led to deindustrialization in the West and globalization. Additionally, containerization required more space, which is mainly found outside cities. (Mah, p. 1-2, 2014)

The separation of port-related activities from cities and declining ports is theorized by Hoyle (1989). The theory is an extension of Bird's Anyport model, which described the historical development of ports (Notteboom, p. 109-111, 2022). According to Charlier (2013), these abandoned port-related areas are redeveloped according to new principles. Many Western port cities that experience economic decline aimed for recovery through culture-led and tourism-led waterfront development (Hein, 2016). As such, they restructured their waterfronts according to these principles.

2.1.2. Consumerism and tourism principles at the waterfront

Restructuring waterfronts by consumerism and consumer principles can be linked to commodification of the waterfront. Harvey (2008) states that these principles commodify urban life, in such a way that the quality of urban living can only be experienced by higher income groups. These waterfronts are described as new lifestyle centers that include expensive apartments, and commodified leisure and entertainment spaces (Boland, et al., 2016). At the same time, these entertainment spaces create low-paid service jobs, that may be 'outsourced' to other neighborhoods that contain low-income groups (Kuyucu & Ünsal, 2010). The commodification of space (or: creation of privatized space) may form physical and mental barriers on the access and usage of space by certain income groups (Madanipour et al., 1998). It may therefore induce exclusionary processes.

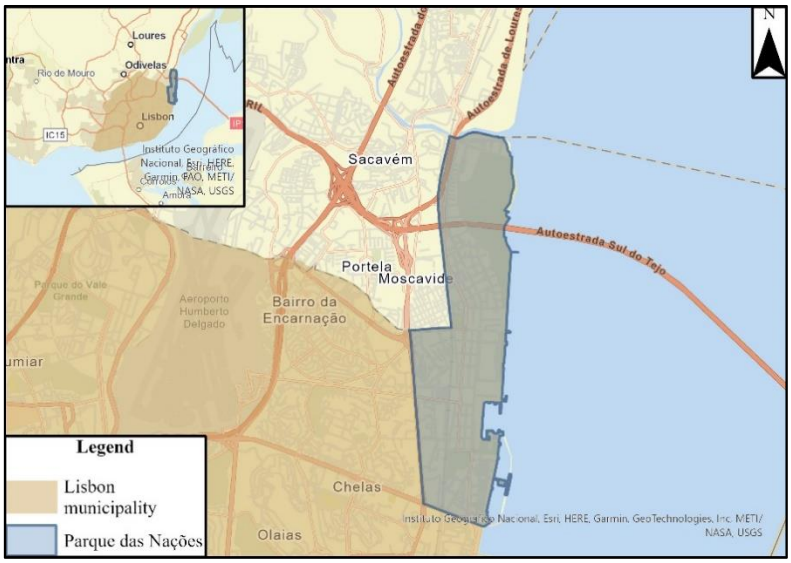
2.1.3. Neo-liberalism at the waterfront

Many waterfront redevelopment projects in the 1990s were aimed to increase the competitiveness of cities globally. By Oakley, this phenomenon is called the 'neo-liberal competitive city paradigm. The objectives of these projects were economic generation, increasing tourism flows, and strengthening the real estate market. This neo-liberal discourse is said to have caused increased segregation in (port) cities, with new forms of exclusion (Rodríguez et al., 2003).

2.2. Parque das Nações

2.2.1. The waterfront area

Parque das Nações is a former port-related area, which is redeveloped as a new centrality in Lisbon, Portugal. The area used to be designated for the port-related petroleum industry. Parque das Nações was redeveloped for the 1998 World Fair which was held in Lisbon. The plan included post-hoc strategies, to ensure future reuse of the area (Gato, 2014). In general, Lisbon restructures its waterfront according to the consumerism and tourism principles, this includes the area of Parque das Nações (Garcia, 2019).



Map 1. Location of Parque das Nações parish.

Parque das Nações is located in northeastern Lisbon, along the Tejo estuary, as visualized in Map 1. The area has good connectivity, due to Gare do Oriente (station with metro and (international) bus and train connections), the proximity to Lisbon's airport, and the Vasco da Gama bridge crossing the Tejo. This connectivity is a driver for economic activities in the area (Antunes de Almeida, 2017).

2.2.2. Private space and design

When one arrives in Parque das Nações by public transport one will first need to pass the Vasco da Gama shopping mall, then a public space with large buildings and venues that mostly contain paid leisure activities and some shops and offices, before one reaches a stretch of park along the waterfront. Along the edges of the (public) space are the residential areas that stretch to the borders of the neighborhood.

The allocation of public space, and the design of Parque das Nações had arguably attracted many private investments. The sales of plots were the biggest success of the redevelopment in terms of revenue, while public interventions were overestimated (Van Miltenburg, 2010). According to Bid Rent theory, and Burgess and McKenzie (1925), the success may be assigned to the transportation hub (Gare do Oriente), and the Vasco da Gama shopping center that forms the entrance to/pathway between Parque das Nações. The design is such that the shopping center area forms the most productive space, due to connectivity (both in terms of transportation and visitors with Parque das Nações as a destination) – as such, it receives the highest private investments according to the theories. The area allows the allocation of private investments efficiently due to the design. This makes that implementation of the project is generally regarded as a success, also assessing the urban design and the quality of the built environment (Medeiros et al., 2021). The project was one of the few waterfront redevelopment projects that was implemented (Garcia, 2019).

Even though Parque das Nações enjoys uncontrolled access for all citizens of Lisbon, exclusionary processes may still exist due to its design. Madanipour states *'we may be hesitant to enter an expensive looking shopping center if we do not have the resources needed for the activities there'* (Madanipour et al., p. 208-209, 1998). Nevertheless, the shopping center is the main entrance to the area. Additionally, the area's residential real estate is designed homogenously, solely housing the middle and upper class (Medeiros et al., 2021). This is described by Gato (2014), as a 'new culture of urban dwelling' and 'the appropriation of the waterfront by groups with higher economic power'. The latter forms sharp contrasts with the

rest of Lisbon, including the adjacent neighborhoods. The architect mentioned that, although public space is generous in Parque das Nações, the discontinuity creates a model of urban insularity of private condominiums where only electrified fences are missing (Garcia, 2019). Public space is generous indeed, 53% of the area is assigned as public space, including the waterfront, and 28% percent is private (residential, retail, offices) (GEURBANA, 2009, cited by Van Miltenburg, 2010).

2.2.3. Economic regeneration

By redeveloping the area, Lisbon aimed to gain international recognition. The project indeed increased tourism flows, led to economic generation and strengthened the real estate market (Lestegás et al., 2019; Medeiros et al., 2021). Nonetheless, these objectives hardly spill-over to the adjacent neighborhoods of Parque das Nações (that also contain social housing), due to reduced investments on integration by the promotor of the area (Parque Expo) (Garcia, 2019; Medeiros et al, 2021). Bernardo & Palma-Oliveira (2016) state that there is a social gap between Parque das Nações and the surrounding neighborhoods. They found that Parque das Nações' residents distinct themselves in terms of identity from the adjacent neighborhoods, in higher levels than vice versa.

2.3. Conceptual model

The key variables in this study, applied to the Parque das Nações area in Lisbon, can be visualized as in Figure 1.

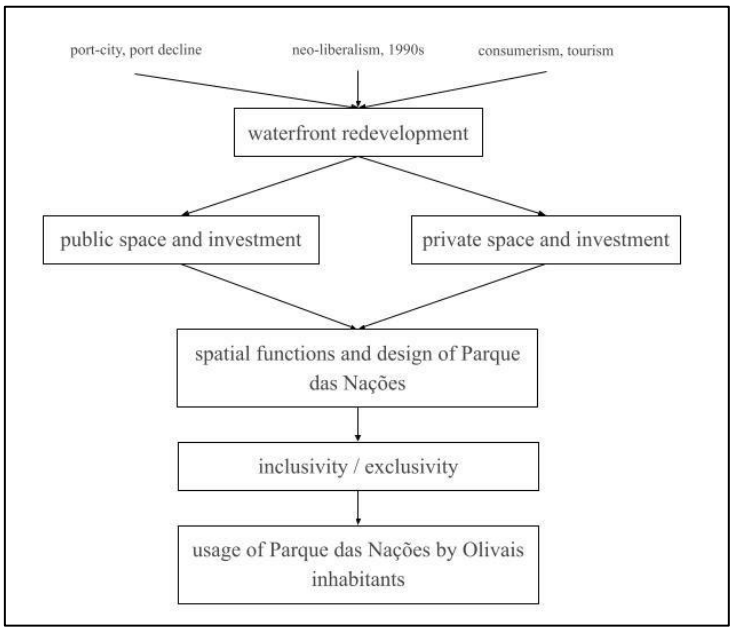


Figure 1. Conceptual model.

The visualization presents the three-dimensional context of dynamics of waterfront redevelopment discussed in section 2.1. As discussed in section 2.2., it is expected that these dynamics form exclusionary processes. These exclusionary processes are analyzed by measuring the degree to which Olivais' inhabitants, based on income groups, use Parque das Nações' functions. By gaining knowledge of these exclusionary processes, the paper tries to formulate (spatial) solutions for inclusionary processes for waterfront redevelopment areas characterized by these dynamics.

2.4. Hypotheses

2.4.1. First hypothesis

As stated, it is expected that Parque das Nações forms exclusionary processes, due to (past) discourses. This can be confirmed if it is inferred that different income groups from Olivais use Parque das Nações' functions differently (H1). Acceptation of the H0 can be formulated as a situation in which all income groups from Olivais use Parque das Nações' functions equally.

2.4.2. Second hypothesis

It is expected that Olivais inhabitants with low income are using the (direct) waterfront of Parque das Nações to a lesser extent than higher incomes, due to the allocation of private space (H1). Contrarily, the H0 would be formulated as: the usage of the (direct) waterfront is equal between different income groups from Olivais, which disregards the allocation of private space.

3. Methodology

3.1. Method

As the research tries to find patterns in usage of the functions and areas of Parque das Nações by different income groups from Olivais, to recommend how to (re-)design inclusive waterfront areas that are characterized by exclusivity, the research uses primary quantitative data. Quantitative data is extracted from two populations: Olivais residents and Parque das Nações' waterfront users (primarily used as a benchmark). The area of Parque das Nações is researched as it has clear boundaries and it has the characteristics of interest of the study.

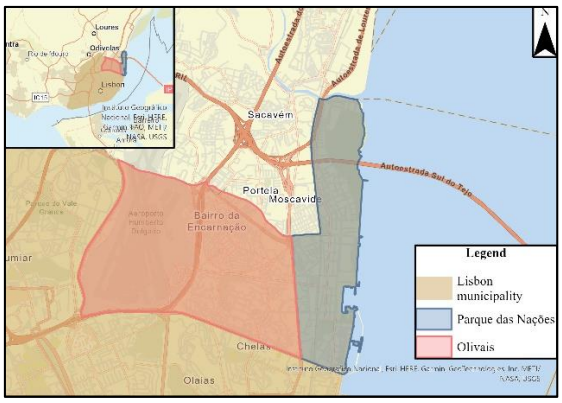
3.2. Operationalization

3.2.1. Operationalization of income

A central notion in the research and both samples is income. Income is categorically measured as monthly net personal income in Euros (which is income minus income tax). The categories are approximations of the quintiles of Lisbon's income distribution. The categories, and argumentation for the thresholds can be found in Appendix 1.

3.2.2. Operationalization of Olivais residents

Olivais is sampled as it is an adjacent neighborhood, and its educational and economic levels are near Lisbon's average (Bernardo & Palma-Oliveira, 2016). Olivais was constructed with the aim of social housing, furthermore it is designed according to the principles of modernism (Bernardo & Palma-Oliveira, 2016). The neighborhood consists of high-rise residential building blocks, green spaces in between, the car infrastructure is prominent, and functions are separated. The neighborhood has two centralities: a shopping mall, and Olivais old center (the latter located close to Parque das Nações). The location of Olivais, relative to Parque das Nações, can be viewed in Map 2.

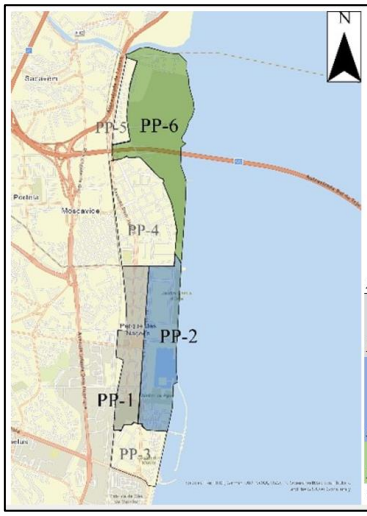


Map 2. Location of Olivais parish.

Respondents are presented a list of functions per zone. For every function respondents are asked to rate their intensity of usage. Overviews can be found in Figure 2 and Figure 3. The residential zones (PP-3,-4,-5) are left out of the research, due to their weak links with the theory, and assumably Olivais residents.

Functions used in research	*Listed in survey as*	*Listed in zones*	*Intensity listed in survey*	*Score in ratio for research*
Shopping	Shopping.	PP-1. PP-2.	Never. (Almost) never. (Almost) monthly. (Almost) weekly. (Almost) daily.	0 to 4 for Never to (Almost) daily
Eating and Drinking	Eating and drinking.	PP-1. PP-2.	"	"
Paid Leisure	Aquarium. Event. Museum or theatre. Casino.	PP-2.	"	"
Free Leisure	Cycle or step. Walk or jog. Sit or relax outside. Other sports activities (only for PP-6).	PP-2. PP-6.	"	"
Waterfront	Waterfront.	PP-2. PP-6.	Never. (Almost) never. (Almost) monthly. (Almost) weekly. (Almost) daily.	0 to 4 for Never to (Almost) daily

Figure 2. Overview of functions.



Zone	*Characteristics*	*Functions used in research*	*Remarks*
PP-1	Commercial zone; Vasco da Gama mall and various business facilities	Shopping. Eating and drinking.	In survey referred to as Vasco da Gama shopping mall
PP-2	Public space with large scale paid leisure facilities and restaurants and (tiny) stretch of garden and public space along the waterfront	Shopping. Eating and drinking. Paid Leisure. Waterfront. Free Leisure.	
PP-6	Parks	Free Leisure. Waterfront.	

* 'Characteristics' and 'Functions used in research' based on Van Miltenburg (2010) and observations made prior to the research

Figure 3. Overview zone (zones based on map of Portal das Nações (2014)).

Additionally, respondents are presented affirmations on which they can rate their agreement on a Likert scale. The affirmations involve accessibility, tourism, affordability, presence of public space, presence of events, presence of suitable jobs, and if they like living close to the Tejo. The variables give insight to which aspects of the area could be improved.

Lastly, respondents are asked for their age, gender, and most used mode of transportation to the area.

3.2.3. Operationalization of Parque das Nações' waterfront users

A second sample is taken from Parque das Nações' waterfront users. The sample has two purposes. First, the sample gains knowledge about the effects of living and housing in Parque das Nações (or: waterfront) on the usage of the waterfront. Second, to compare the income distribution against the income distribution of the Olivais sample, to draw a conclusion about the exclusivity at the waterfront specifically. Respondents are asked if they live in the area, if they are a tourist, their income group, gender, and the most used mode of transportation to the area.

3.3. Sampling strategies and demographical characteristics

3.3.1. Olivais sampling strategy and demographics

For the Olivais residents sample, a convenience technique is applied. Five participants have been recruited in and around the main park of Olivais (Parque Vale do Silêncio) on an evening of a weekday. The rest of the participants has been recruited through Facebook groups of Olivais residents. In total, 65 cases have been yielded. The sample has a high range of age (MIN_O=21, MAX_O=69), contributing to representativity, with the mean age being 44 years (M_O=44.02). The distribution for gender in the sample is skewed, approximately one-third of the cases are male (36.9%). The latter may be a result of the convenience sampling technique. The tables can be found in Appendix 6.

3.3.2. Parque das Nações' waterfront users sampling strategy and demographics

Parque das Nações' waterfront users have been recruited by a spatial stratified sampling technique. Random samples have been taken along the waterfront of PP-2 and PP-6 (visualized in Figure 3). The participants have been recruited on two weekend days and one weekday, at the end of the afternoon and the beginning of the evening. The sample has 59 cases and has a high range of age too (MIN_{PdN}=19, MAX_{PdN}=85). On average, the participants are seven years younger than the participants from Olivais. Nevertheless, Olivais' population is slightly older than the rest of Lisbon (Bernardo & Palma-Oliveira, 2016). The sample has an approximately equal distribution of gender. Just over half of the cases are male (57.7%). The tables can be found in Appendix 6.

3.3.3. Demographical impacts on income

It should be addressed how the demographics of the sample influence income, since income is a central notion of the research. A weak positive relationship is found between age and income, $r(54) = .314$, $p < .05$. Furthermore, the income distribution for men and women differs, observing the percentages in a crosstabulation. This may have an impact on the Olivais sample, due to its skewed distribution of gender. For reference see Appendix 6.

3.4. Data analysis plan

The intensity of the usage of the zones and functions are communicated as descriptive statistics. A multiple regression analysis determines the effects of income on the (total) usage of Parque das Nações, to draw conclusions about exclusionary processes of Parque das Nações as a whole. It uses a total score of usage as a dependent variable. Age, gender, and income groups are put in as regressors. Combined, it concludes the first sub-question.

A second multiple regression analysis determines the effects of private space and income on the usage of the direct waterfront. The score for the usage of the waterfront is entered as the dependent variable. Income groups, age, gender, and the score for the usage of private space are entered as regressors. Private space is categorized by the following usages: eating and drinking, paid leisure activities, and shopping. The selection is made keeping in mind the definition of a private good (rivalry and excludability). In contrast to a public good: available for every income level (Chen, 2021). Additionally, a Chi-Square test is performed for the two income distributions of the samples, to test exclusion at the waterfront specifically. Combined, it answers the second sub-question.

The multiple regression analyses are selected as they adjust for the demographic characteristics of the sample, described in the previous section. For inferential statistics, the significance will be tested with an alpha of 5%. The plan is visualized in Figure 5.

Finally, the affirmations are analyzed descriptively, which adds to a deeper understanding of needed alterations and design for an inclusive waterfront area. If certain income groups are excluded, the affirmations are analyzed solely for these income groups. The objective of this analysis relates to the third sub-question.

The multiple regression analyses are selected as they adjust for the demographic characteristics of the sample, described in the previous section. For inferential statistics, the significance will be tested with an alpha of 5%. The plan is visualized in Figure 4.

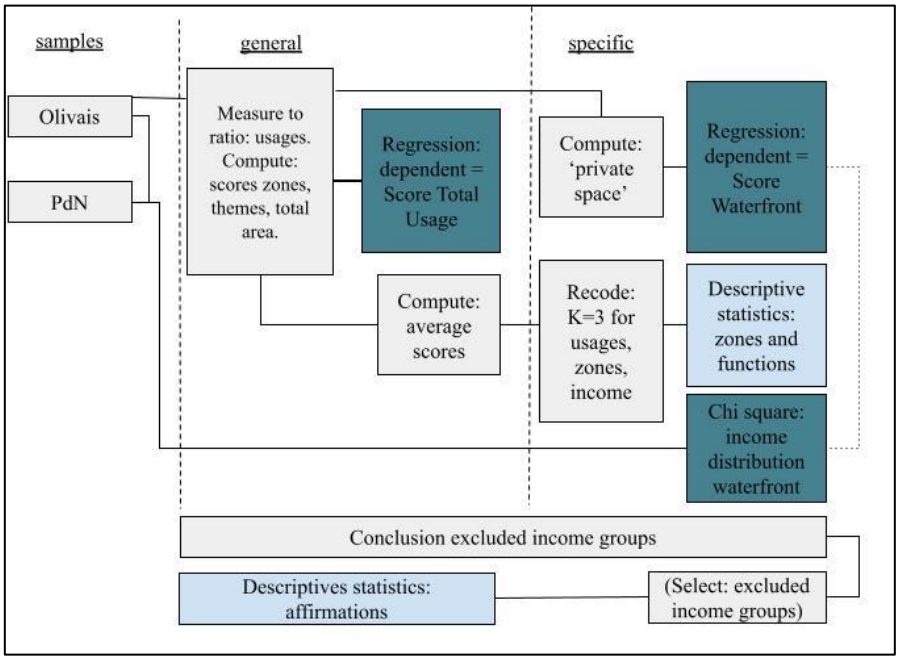


Figure 4. Data analysis scheme.
*PdN = sample Parque das Nações' waterfront users, general = analysis for the general area and usage of Parque das Nações, specific = analysis for specific areas or functions of Parque das Nações.

3.5. Research ethics

Due to a low level of interaction between the researcher and the participants, power relations do not have to be considered extensively. Nevertheless, the researcher will inform herself about local customs for ethical appropriate interactions with (potential) participants. The latter includes informing herself about the local language. This also means that the questionnaire is distributed in the Portuguese language. The researcher is to a large extent unfamiliar with Lisbon, this makes the researcher more objective. On the other hand, the researcher might be unaware of some local contexts. All participants will be asked for consent. Income data requires a good level of privacy, the data will be handled confidentially. The entire research process complies with the Netherlands Code of Conduct for Research Integrity (2018) and with the Ethics in Social Science and Humanities from the European Commission (2018).

4. Results

4.1. Income and exclusion

To make a good comparison, average scores have been created for all zones, and all functions of Parque das Nações by respondents from the Olivais sample. Additionally, crosstabulations have been created, showing percentages for the frequencies (never, now and then, frequently) per income group, for every zone and function. These are presented in Appendix 7. The Low, Middle, and High Income groups contain 16, 14, and 29 cases respectively in the Olivais sample. The unequal distribution of cases amongst the income groups may reflect the fact that the thresholds for the income groups are an approximation of the quintiles of the income distribution of Lisbon.

4.1.1. Parque das Nações

The residents of Olivais do not use Parque das Nações often. 93,2% of the residents visits Parque das Nações every now and then, this is reflected in Figure 5. 3,4% of the sample has never been to Parque das Nações and only 3,4% visits the area frequently. The shopping mall (PP-1) is a popular zone, while especially the waterfront, but also shopping, and eating and drinking facilities are popular functions. The High Income group is the most frequent user of Parque das Nações, but the differences with other income groups are minor to non existing. The latter would suggest that Parque das Nações is an inclusive place between income groups from Olivais. That said, the fact that Olivais inhabitants in general do not use Parque das Nações so often, may suggest that Olivais, as a community, is excluded from Parque das Nações.

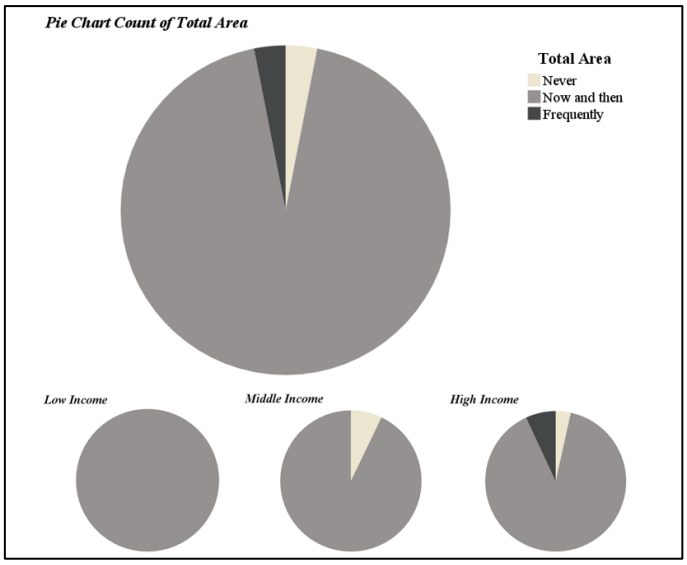


Figure 5. Pie charts for the usage of Parque das Nações.

As suspected, it cannot be inferred that different income groups from Olivais use Parque das Nações in different intensities. The results of the multiple regression analysis are found to be insignificant, $F(6,54) = .595$, $p < .733$, with no significant regressors. The results of the test can be found in Appendix 7. This means that income (amongst others) cannot predict the intensity of usage of Parque das Nações. It can therefore be concluded that Parque das Nações as a whole, does not form (economic) exclusionary processes for Olivais residents.

4.1.2. Waterfront and private space

The waterfront is the most used function of Parque das Nações. 30,5% of the Olivais residents are frequent users of the waterfront, and 67,8% visit the waterfront every now and then. The latter is visualized in Figure 6. Relative to other income groups, the High Income group the most frequent user of the (direct) waterfront. Figure 6 furthermore suggests that there is an

upward sloping trend for income and usage of the waterfront The fraction of frequent users increases with a higher income, while the faction of residents that use the area now and then decreases with a higher income. Additionally, the frequency of usage of the waterfront does not match with the frequency of free leisure activities. Only 13,6% frequently perform free leisure activities, and 81,4% of the sample performs it every now and then. As such, the (direct) waterfront does not invite the Olivais residents to cycle, jog, walk, or sit or relax outside.

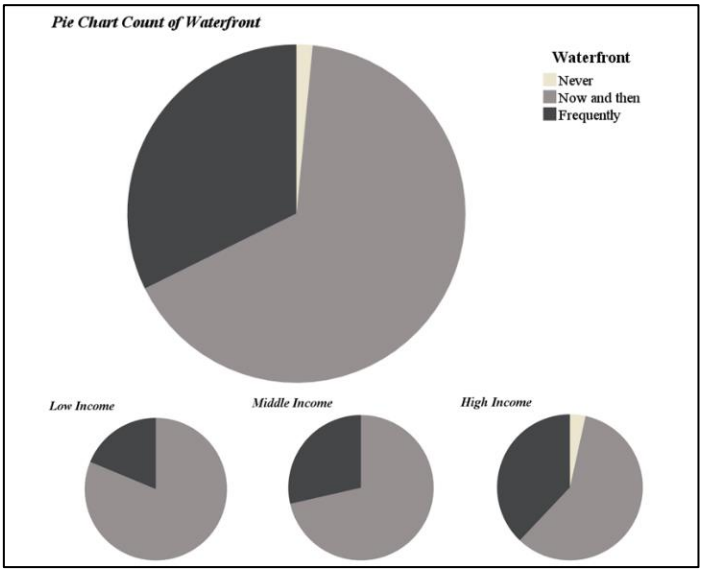


Figure 6. Bar charts for the usage of the waterfront.

The zone with the most private space (PP-1, the shopping mall), is the most popular zone in Parque das Nações amongst Olivais residents. This coincides with the fact that shopping is a relative popular activity, 17% of the sample shops at least almost once per week. Additionally, eating and drinking is also a relatively popular activity to perform in the area. Contrarily, the paid leisure functions (the third 'private space' variable) are rarely used. No one in the sample is a frequent user of these function, and roughly one-fifth of the sample stated that they have never used these functions. The latter makes that the PP-2 zone, which contains many paid leisure venues, is the least used zone of the area too.

Eating and drinking, and shopping facilities are sporadically used by the Middle Income group. The Middle Income group also relatively uses the Vasco da Gama mall the least. It is striking that free functions are relatively frequently used by the High Income group. While, the eating and drinking, and shopping facilities (paid functions) are most used by the Low Income group.

The upward sloping trend discovered in Figure 6, between income and the intensity of usage of the waterfront, cannot be inferred according to the multiple regression analysis. The model (dependent: waterfront, regressors: age, gender, private space, income) proves to be insignificant, $F(7,53) = 1.996$, $p < .0.73$. Income, controlling for age and gender in the sample, has no significant linear relationship with the intensity of usage of the waterfront. Nevertheless, the intensity of usage of private space can predict the intensity of usage of the waterfront, $b = .173$, $t(52) = 3.346 < 0.01$, it is the only significant regressor in the model. The latter entails that private space has the potential to form exclusion on the waterfront. The model has no multicollinearity, meaning that the intensity of usage of private space has no linear relationship with income either. This means that private space in Parque das Nações is inclusive. It can be concluded that Parque das Nações' waterfront does not show (economic) exclusionary processes, and neither so does the private space in the area.

Lastly, data on the income distribution at Parque das Nações' waterfront have been collected to compare to the Olivais sample. The income distribution between the two locations is similar.

The Chi-Square test is insignificant, X2 (4, N=104) = 3.010, p > 0.05. The latter confirms that the (direct) waterfront is an inclusive place, since no income group is underrepresented.

4.1.3. Discussion on income and exclusion

Only a very small fraction of the Olivais residents visit Parque das Nações frequently. This may reflect the low levels of integration of Parque das Nações with the adjacent areas (Garcia, 2019). Additionally, the finding is line with literature on the neo-liberal discourse, that states that the discourse increase segregation in port cities (Rodríguez et al., 2003).

Private space has the potential to form (economic) self-selection processes for the usage of the waterfront since a linear relationship is found. This partially confirms Madanipour's theory (1998), about private space forming barriers to movement. Nevertheless, a real barrier is not found in Parque das Nações, since income does not affect the usage of the waterfront or the area as a whole. This means that the private space, or: the entrance to Parque das Nações (PP-1), forms no barrier for movement for different income groups. The latter thus partially rejects Madanipour's theory. Therefore, the findings regarding Madanipour's theory are somewhat contradictory. Nevertheless, one may state that the design and accessibility of private space thus matter for an inclusive waterfront in Parque das Nações. And, it may be carefully stated that Parque das Nações is an inclusive place due to, arguably, private space of which its usage is unrelated to income. Theory may therefore actually undermine the role of private space in attracting all income groups to consume, and visit the waterfront. This can be stated as the consumerism principle is reasonably present in Parque das Nações (shopping, and eating and drinking are relatively frequently used functions) (Garcia, 2014). As such, these waterfront spaces with commodified leisure may be targeted at all income groups by private parties, and therefore all income groups are attracted to these 'lifestyle centers' (Boland et al., 2016). This automatically infers that the allocation of private condominiums targeted at higher income groups, as is found at Parque das Nações (Garcia, 2019), does not affect the in/exclusivity of private space, as these private actors may supply or target a population that is larger than the population found living at the waterfront. These private actors can be attracted to invest in the area depending on the area's design. As stated before, Parque das Nações' design is strong in attracting private investment, due to the allocation of private space relative to the center of connectivity (Gare do Oriente), according to Bid Rent theory and Burgess and McKenzie (1925). This is reflected in the high revenues of plot sales (Van Miltenburg, 2010), and the high scores found in the research for Shopping, and Eating and drinking.

4.2. Parque das Nações: improvements, living and working

The Olivais residents have been presented affirmations, to study which aspects of Parque das Nações could be improved. Additionally, the Olivais residents were asked if they work in Parque das Nações, and if so, how often. At the Parque das Nações' waterfront, respondents were asked if they live in the area. An overview of the results can be found in Appendix 8.

4.2.1. Affirmations

Generally, Olivais residents seem to find Parque das Nações a great area. (Almost) all affirmations are rated positively. Olivais residents like living close to the Tejo very much, almost 60% of the residents strongly agrees with the affirmation, while only 6,2% (strongly) disagrees with the affirmation. The amount of public space in Parque das Nações is rated very positively too, 93,7% of the Olivais residents finds that the amount of public space is sufficient. The latter is quite contradicting since the shopping, and eating and drinking facilities are the functions that (relatively) attract many people to the area. The area has great accessibility too according to the residents. The residents are content with the affordability of the facilities, the sufficiency of entertainment for them and the general accessibility of the area. Furthermore, Olivais residents perceive Parque das Nações to be an area destined for tourism, more than half of the respondents (strongly) agrees with the affirmation. Finally, the affirmation on the sufficiency of adequate jobs is, relatively, rated most negatively. 45,3% rate the affirmation neutrally, and approximately one-fifth of the residents (strongly) disagree. This makes that the

employment aspect of Parque das Nações is rated more ambiguous than the other aspects. As such, it leavesroom for improvement.

4.2.2. Working and living

In the Olivais sample, approximately 10% of the Olivais residents is employed in Parque das Nações. 1 case is full-time employed in Vasco da Gama shopping center. Meanwhile, 6 cases (9.2%), are employed in the PP-2 zone, all full-time, with one case even working 6 days per week. The (valid) cases that are employed in Parque das Nações, fall within various income categories. The incidence per income group is the highest for the Income Low group (30%), thereafter the High Income group (12,5%), thereafter the Middle Income group (7,1%). The incidence of employment in Parque das Nações per income group, therefore, shows a reasonable difference.

In the Parque das Nações' waterfront users sample, 6 cases live in Parque das Nações, of the 52 cases in total (and 35 cases that are Lisbon locals). This means that firstly, living at the waterfront and using the waterfront are hardly related. Secondly, there is quite a strong presence of tourists (domestic and foreign) at the waterfront.

4.2.3. Discussion on improvements, and the working and living aspect

Olivais' residents confirm through the affirmations that Parque das Nações is a spatial representation of the 'neo-liberal discourse', as they believe that tourism and entertainment are aspects that are highly present in Parque das Nações (Oakley, 2011; Medeiros et al., 2021; Boland et al., 2016). Despite this confirmation, the data gives no suspicion to the statement about the appropriation of the waterfront by higher income groups (that live in Parque das Nações) (Gato, 2014), which is in literature coupled to this neo-liberal discourse (Oakley, 2011). This is stated as generally, the affirmations are rated very positively. Olivais residents perceive the area to be accessible to them (transport, facilities, and entertainment). Also, the number of cases that were found in the Parque das Nações' waterfront sample that live in the area is minimal, meaning that the allocation of luxurious condominiums does not form exclusionary processes at the waterfront (Gato, 2014; Garcia, 2019). Finally, Olivais inhabitants strongly agree that they like living close to the Tejo, this may entail that Olivais residents perceive that the Tejo belongs to them (too), instead of only for higher-income classes that live in Parque das Nações. Harvey's (2008) statement that the consumerism and tourism principles make the quality of urban life has become a commodity for higher incomes, can be regarded as untrue looking at the findings. Generally, these findings are in line with the findings discussed under 'Discussion on income and exclusion'.

Additionally, the complaints about the integration of adjacent neighborhoods in Parque das Nações, amongst which Olivais (Garcia, 2019; Medeiros et al., 2021), are not reflected in the data as Olivais residents perceive Parque das Nações to be accessible to them. Despite these types of accessibilities (infrastructural, entertainment, facilities), the jobs that the economic regeneration at Parque das Nações generated appear to be less accessible to Olivais residents. A small portion of the sample is employed in Parque das Nações. The employment aspect is rated the least positively in the sample as well. The latter could be because Parque das Nações generates many very low-paid jobs compared to higher-paid jobs (looking at the incidence of employment per income group). This is in line with Kuyucu & Ünsal's (2010) statement that these entertainment spaces create low-paid service jobs for (adjacent) neighborhoods that house low-income groups. It is unclear, however, if Parque das Nações in general generates few high-paid jobs, or if these higher-paid jobs are not outsourced as the labor supply is found in the 'entertainment' area itself.

The positive ratings of the affirmations furthermore mean that Olivais residents visit the area now and then, not because of bad accessibility or because the area is not appealing to them. Instead, the residents may just not have many reasons to visit the area often. The most used functions of Parque das Naçoes are the waterfront, the shopping facilities, and the eating and

drinking facilities (as explored before). As such, one may reasonably state that the consumerism is a major reason for the residents to visit the area. Since 28% percent is private space (residential, retail, offices), the area does relatively not have many spaces which have functions that attract Olivais residents to the area, even though they are found in prominent locations.

To conclude, the data suggests that there is little to improve for Parque das Nações as the area is inclusive and Olivais residents rate various aspects of Parque das Nações positively. The integration of the job market with neighboring Olivais appears to be the only aspect that could be improved.

5. Conclusions

5.1. Main conclusions

The research aims to propose ways in which the waterfront redevelopment area of Parque das Nações, characterized by non-inclusivity, can be converted into a place of inclusivity, especially concerning the residents of the adjacent neighborhood of Olivais. Theory highly suggested that Parque das Nações would form exclusionary processes, due to its design (the Vasco da Gama shopping center as entrance) and the dynamics (neo-liberalism, consumerism, tourism) according to which the former port-related industry area is restructured (Madanipour, 1998; Harvey, 2008; Oakley, 2011; Garcia, 2014). The results of the research confirm that these principles are present in Parque das Nações. The research nevertheless found that Parque das Nações is not an area characterized by such exclusionary processes. That is stated as income does not influence the usage of Parque das Nações, including the direct waterfront. The appropriation of the waterfront by higher-income groups is not found in Parque das Nações either (Gato, 2014). Furthermore, the design of Parque das Nações, and the allocation of private space relative to the public space and the transportation hub, does not form a barrier to movement for different income groups. The design instead has contributed to an efficient allocation of private investment, and hence a successful implementation of the project (Garcia, 2014; Burgess & McKenzie, 1925). After all, the allocation of private space may even attract all income groups to consume, and to visit the waterfront. That said, it is important to mention that the amount of public space in Parque das Nações is generous, which may also contribute to the inclusivity of the area (Van Miltenburg, 2010).

5.2. Implications for policymakers and recommendations for academia

Olivais residents perceive Parque das Nações as a great area. All findings imply that there is little to improve for Parque das Nações, except for the employment aspect. Especially low-paid jobs are outsourced to Olivais, which makes residents in general less satisfied with the adequacy of jobs for them. This may be an aspect or problem that these entertainment spaces, such as Parque das Nações, bring with them (Kuyucu & Ünsal, 2010). But more research is needed to make proper statements about it. The goal of these large-scale waterfront (re-)development projects is to achieve economic generation, increase tourism flows, and strengthen the real estate market (Medeiros, 2021). Yet, (former) port cities should carefully consider what type of jobs these objectives, and hence projects, create. Additionally, they should reflect on for whom (which residents, of which neighborhoods) these jobs are created. Integration of the job market in the existing spatial-economic fabric would enhance inclusion.

Ultimately, findings mean that former-port cities that restructured their waterfront areas within the 1990's neo-liberal competitive cities paradigm (Oakley, 2011), do not have to concern about exclusivity per se. It is advised that cities are careful with the allocation of private space if they wish to have inclusive waterfronts since it influences the usage of the waterfront (or: public space). On the other hand, cities that want to realize redevelopment of their waterfronts could use design to allocate these private investments for successful implementation. Private space may even attract people to the waterfront. The research shows that it does not have to be a trade-off per se. A healthy mix is needed and can be achieved, as is the case in Parque das Nações. It should nonetheless be noted that the research did not measure qualitative exclusionary processes. Experiences for different income groups may differ in Parque das Nações. The latter is of course not reflected in the data of this research. It is therefore advised to academia to research these experiences closely related to design and functions, to be able to more holistically reflect on the theories mentioned in the research.

5.3. Limitations

The initial and preferred sampling strategy planned for Olivais was canceled due to a low response rate. A trade-off had to be made. The preferred technique would have resulted in high representativity, but a low number of cases and hence non-normality. The convenience sampling technique (which has been applied), ensured a high number of cases and normality of data, arguably with lower levels of representativity. Luckily, the regression analyses applied in the research adjust for these characteristics of the sample. Furthermore, the fact that statistical data about Lisbon's income distribution was unavailable, makes the income categories an approximation, based on the data that was available (data for the Kuznets ratio, and median income). This entails that there is no benchmark for the income distributions of the samples. Testing Olivais' income distribution against Parque das Nações' waterfront users' income distribution says something about the possible underrepresentation or overrepresentation of income groups at the waterfront, but only in comparison to Olivais' income distribution. One would have to assume that Olivais' income distribution found in the sample is representative of Olivais, and maybe for Lisbon as a whole. Additionally, the data about the intensity of usage of functions have been converted from categorical to scale data. The latter has implications since the interval is small, which may influence the results of statistical tests. Finally, on a positive note, the affirmations were initially designed to inform about possible alterations for the area. Eventually, they served more purpose, namely, to confirm the presence of certain dynamics in the area (consumerism, tourism, neo-liberalism). The latter made the argument as a whole stronger.

6. Bibliography

Antunes de Almeida, B. (2017). *RELEVÂNCIA DO "PARQUE DAS NAÇÕES" PARA A DINÂMICA DO TURISMO NA CIDADE DE LISBOA.* ISCTE Business School: Lisbon.

Bernardo F., & Palma-Oliveira, J.M. (2016). Urban neighbourhoods and intergroup relations: The importance of place identity. *Journal of Environmental Psychology*, 45, 239–251.

Boland, P., Bronte, J., Muir, J. (2017). On the waterfront: Neoliberal urbanism and the politics of public benefit. *Cities*, 61, 117–127.

Burgess, E.W. & McKenzie, R.D. (1925). The Growth of the City: An Introduction to a Research Project. In: LeGates, R.T. & Stout, F. (Ed.) (2016), *The City Reader*, 6th edition (178-186). London: Routledge.

Charlier, R.H. (2013). Life cycle of ports. *International Journal of Environmental Studies*, 70(4), 594–602.

Chen, J. (2021). *Private Good*. Retrieved on 20-5-2022, from https://www.investopedia.com/terms/p/private-good.asp#:~:text=Key%20Takeaways,to%20use%20or%20consume%20it. Investopedia.

European Commission (2018). *Ethics in Social Science and Humanities*. Retrieved on 21-3-2022, from https://ec.europa.eu/info/sites/default/files/6._h2020_ethics-soc-science-humanities_en.pdf

Eurostat (n.d.). *Glossary: At-risk-of-poverty rate.* Retrieved on 26-5-2022, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:At-risk-of-poverty_rate

Garcia, P.R. (2019). The Lisbon Waterfront: Perspectives on Resilience in the Transition from the twentieth to the Twenty-First Century. *Journal of Urban History*, *47*(2), 373–388.

Gato, M.A. (2014). Living in a(n) (un)Gated Community: Neighbourhood Belonging in Lisbon's Parque das Nações. In: Watt, P. & Smets, P. (Ed.) (2014), *Mobilities and Neighbourhood Belonging in Cities and Suburbs* (60-79). London: Palgrave Macmillan.

Harvey, D. (2008). The Right to the City. In: LeGates, R.T. & Stout, F. (Ed.) (2016), *The City Reader*, 6th edition (270-278). London: Routledge.

Hein, C.M. (2016). Port cities and urban waterfronts: how localized planning ignores water as connector. *Wiley Interdisciplinary Reviews*, Water, 3(3).

Hoyle, B.S. (1989). The Port—City Interface: Trends, Problems and Examples. *Geoforum*, 20(4), 429–435.

INE (2019*). Inter and Intramunicipal Inequalities - A territorial portrait based on the personal income tax (IRS) settlement notes – 2019.* Retrieved on 22-5-2022, from https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=473132089&DESTAQUESmodo=2&xlang=en.

INE (2021). *The at-risk-of-poverty rate increased to 18.4% in 2020 – 2021*. Retrieved on 21-5-2022, from https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=473578455&DESTAQUESmodo=2.

Kuyucu, T., & Ünsal, Ö. (2010). 'Urban Transformation' as State-led Property Transfer: An Analysis of Two Cases of Urban Renewal in Istanbul. *Urban Studies*, 47(7), 1479–1499.

Lestegás, I., Seixas, J., Lois-Gonzáles, R.C. (2019). Commodifying Lisbon: A Study on the Spatial Concentration of Short-Term Rentals. *Social Sciences*, 8(2), 33.

Location of Olivais parish [map]. Scale 1:58 593. Data layers: GIS Lisboa: Base_Freguesias [computer files]. ON: Generated by Fien Kremer, 22-06-2022. Using: ArcGIS Pro [GIS]. Version. 2.9. Redlands, CA: Esri, 2021.

Location of Parque das Nações parish [map]. Scale 1:58 593. Data layers: GIS Lisboa: Base_Freguesias [computer files]. ON: Generated by Fien Kremer, 22-06-2022. Using: ArcGIS Pro [GIS]. Version. 2.9. Redlands, CA: Esri, 2021.

Madanipour , A., Cars, C., Allen, J. (eds.) (1998). Social Exclusion in European Cities: Processes, Experiences, and Responses. In: LeGates, R.T. & Stout, F. (Ed.) (2016), *The City Reader*, 6th edition (203-211). London: Routledge.

Mah, A. (2014). *Port Cities and Global Legacies: Urban Identity, Waterfront Work and Radicalism*. Basingstoke: Palgrave Macmillan.

Medeiros, E., Brandão, A., Pinto, P.T., Lopes, S.S. (2021). Urban Planning Policies to the Renewal of Riverfront Areas: the Lisbon Metropolis Case. *Sustainability*, 13(10), 5665–5665.

Miltenburg, van, I.H.C. (2010). *Parque das Nações*. Student Thesis: Master. Retrieved on 2-5-2022, from https://pure.tue.nl/ws/files/46976346/675780-1.pdf, 2010. Eindhoven University of Technology: Eindhoven

Netherlands Code of Conduct for Research Integrity (2018). Retrieved on 21-3-2022, from https://www.rug.nl/about-ug/organization/rules-and-regulations/general/gedragscodes-nederlandse-universiteiten/0925-netherlands-code-of-conduct-for-research-integrity_2018_uk.pdf

Notteboom, T., Athanasios A. Pallis, and Jean-Paul Rodrigue. 2022. *Port Economics, Management and Policy*. First ed. Place of publication not identified: Routledge. Retrieved on 5-3-2022, from https://www.taylorfrancis.com/books/e/9780429318184.

Oakley, S. (2011). Re-imagining city waterfronts: A comparative analysis of governing renewal in Adelaide, Darwin and Melbourne. *Urban Policy and Research*, 29(3), 221–238.

Pordata (2021). *National minimum wage.* Retrieved on 26-5-2022, from https://www.pordata.pt/en/DB/Portugal/Search+Environment/Table

Portal das Nações. *Planta do Parque das Nações - Planos de Pormenor* [map]. Scale [n.d.]. "Index of /images/stories/documentos/parque_das_nacoes/projecto/planos". <https://www.portaldasnacoes.pt/images/stories/documentos/parque_das_nacoes/projecto/planos/Planta.pdf> (accessed on 2-5-2022).

Rodríguez, A., Swyngedouw, E., Moulaert, F. (2003). Urban Restructuring, Social-Political Polarization, and New Urban Policies. In: Rodríguez, A., Swyngedouw, E., Moulaert, F. (2003), *The Globalized City: Economic Restructuring and Social Polarization in European Cities*, (29-45). Oxford University Press: Oxford.

Santos, A. M. P., Salvador, R., Dias J.C.Q., Soares, C.G. (2018). Assessment of port economic impacts on regional economy with a case study on the Port of Lisbon. *Maritime Policy & Management*, 45(5), 684–698.

Silva, J., Bernard, A., Espiga, F., Gaspar, M. (2021). *The Impact of Covid-19 on Poverty and Inequality in Portugal and the Cushioning Effect of Policies.* Retrieved on 22-5-2022, from https://oobservatoriosocial.fundacaolacaixa.pt/en/-/the-impact-of-covid-19-on-poverty-and-inequality-in-portugal-and-the-cushioning-effect-of-policies

Zones of Parque das Nações [map]. Scale 1:23 718. Data layers: Portal das Nações (2014): zones (using georeferencing) [computer files]. ON: Generated by Fien Kremer, 22-06-2022. Using: ArcGIS Pro [GIS]. Version. 2.9. Redlands, CA: Esri, 2021.

Appendix 1: Decision on income groups

Group name	*Threshold, in Euro*	*Rough approximation of income distribution Lisbon*	*Approximation based on*
Very Low Income	< 700	1st quintile	Bottom 20% A.M. Lisboa = 559.42 Euro for 2019 (INE, 2019). At-risk-of-povery incidence = 18.4% (threshold = 600 Euro) for 2020 (INE, 2021; Eurostat, n.d.)
Low Income	700-900	2nd quintile	Minimum wage = 705 Euro for 2022 (Pordata, 2021)
Middle Income	900-1200	3rd quintile	Median income A.M. Lisboa = 11283 Euro for 2019 (INE, 2019)
High Income	1200-1700	4th quintile	
Very High Income	1700 >	5th quintile	Top 20% A.M. Lisboa = 1658.17 Euro for 2019 (INE, 2019)

* all amounts in Euro regard **monthly** amounts
** A.M. Lisboa is Lisbon metropolitan area

Figure 7. Overview of income categories.

The initial idea for the research was to make income groups based on quintiles of income. Unfortunately, the data is not available. Data about income distribution in general is rather limited, especially region-specific statistics. The Gini coefficient, data for the Kuznets ratio, mean and median income were available, as such these have been used in the following decision.

Income:

- In 2019, the Median gross reported income less personal income tax paid by a taxable person (INE, 2019)

  - Lisbon = 12898 Euro = **1074.83 Euro**. Bottom 20% = 6981 Euro / 12 = **581.75 Euro**. Top 20% = 25810 Euro / 12 = **2150.83 Euro**.

  * Olivais is part of Lisbon municipality, but Lisbon municipality has many very rich neighborhoods, therefore the following is kept in mind:

  - A.M. Lisboa (metropolitan area) = 11283 Euro / 12 = **940.25 Euro**. Bottom 20 = 6713 Euro = **559.42 Euro**. Top 20 = 19898 Euro / 12 = **1658.17 Euro**.

- minimum wage in 2022 is set at 705 Euro per month, for 2019 it was 600 Euro per month (Pordata, 2021)

- for 2020, the poverty line was set at 554 Euro, and the at-risk-of-poverty was 18.4%, for the country (INE, 2021) – the at-risk-of-poverty threshold is s set at 60 % of the national median equivalised disposable income after social transfers (Eurostat, n.d.). Portuguese at-risk-at-poverty threshold for 2020, was 600 Euro

Decisions on data from INE (2019) for the research:

- median set at 1000 Euro

- highest income group set at 1700 Euro >

- lowest income group set at < 700 Euro

Decision on middle groups to achieve equal groups sizes:

- equal interval = 1700-700 = 1000, 1000/3 = 330 euro approximately

- would lead to: y1-y5 = <700, 700-1030, 1030-1360, 1360-1700, 1700>

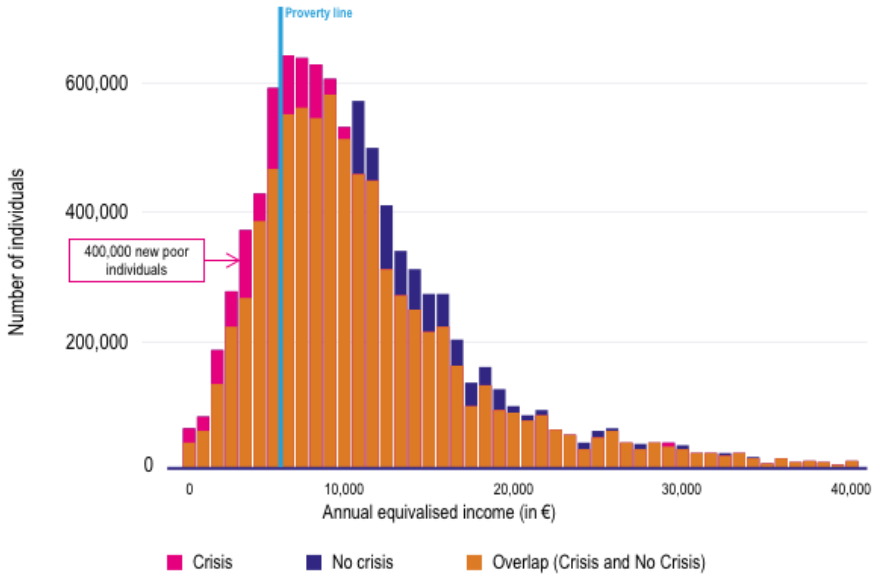
But: the positively skewed income distribution of Portugal would lead to unequal group sizes (Silva, et al., 2021). The latter is visualized in Figure 8.

Furthermore, y2/y3 cutoff = 1030 Euro, which is too close median income of the metropolitan area of Lisbon. When data is insufficient, and categories need to be combined to high, middle, and low income (k=3, instead of k=5), the cutoff point is not handy.

So, decision income groups y1-y5 = <700, 700-900, 900-1200, 1200-1700, 1700>

When groups need to combine to k=3, then: <900, 900-1200, 1200>

Graph 1. **Covid-19 triggered a rise in poverty and inequality in Portugal**
Portuguese income distribution in the crisis and no-crisis scenarios (in €).



Notes: The poverty line is anchored at the no-crisis scenario and is defined as 60% of the equivalised median income. For readability, the distribution was truncated at €40,000. The orange area is where both distributions overlap, meaning that (at least) this number of individuals would have had this income under both scenarios.

Source: Authors' own calculations using Inquérito às Condições de Vida e Rendimento (ICOR), 2019.

The Social Observatory of the "la Caixa" Foundation.

Figure 8. Covid-19 triggered a rise in poverty and inequality in Portugal (Silva, et al., 2021).

Appendix 2: Street survey of Olivais inhabitants

Hello. I am a Dutch bachelor student that is working on my thesis here in Lisbon, associated with Universidade NOVA de Lisbon. I am researching who uses Parque das Nações; which areas and which functions. Your participation in the research is voluntary and you may withdraw at any time. The provided responses are anonymous and will remain confidential. Furthermore, any obtained information will be used for research purposes solely. If you have any questions or concerns, feel free to send an email to Fien Kremer (f.v.kremer@student.rug.nl). The survey will take approximately 3 minutes to complete.

By continuing, you declare the following:

- *I have been sufficiently informed about the purpose of this research.*
- *I am 18 or older.*
- *I have read the above-mentioned information and understand what is expected from me.*
- *I know my participation is voluntary and I have been informed about my rights.*
- *I know I can withdraw from the research at any moment.*
- *I agree with the participation in this research.*


PP-5
PP-6
PP-4
PP-1
PP-2
PP-3

The next three tables represent areas of Parque das Nacões, as shown on the map. Please select, by putting an X in a box, how often you perform the activities there.

PP-1: Vasco da Gama mall - *How often are you here for the activities mentioned below?*

	Never	**Almost never**	**(Almost) monthly**	**(Almost) weekly**	**(Almost) daily**
How often do you **shop** in the Vasco da Gama shopping center?					
How often do you **eat or drink** something here?					

Do you work in the Vasco da Gama shopping center?

☐ **no**

☐ **yes – on average, how many days per week? _____**

PP-2: area behind the Vasco da Gama mall, and waterfront until Torre Vasco da Gama - *How often are you here for the activities mentioned below?*

	Never	**Almost never**	**(Almost) monthly**	**(Almost) weekly**	**(Almost) daily**
How often do you **shop** here?					
How often do you **eat or drink** something here?					
How often do you visit the **aquarium**?					
How often do you attend an **event** here?					
How often do you visit the **museum or theatre** here?					
How often do you visit the **casino**?					
How often are you along the **waterfront** here?					
How often do you **cycle or step** here?					
How often do you take a **walk or jog** here?					
How often do you **sit or relax outside** here?					

Do you work in this area?

☐ **no**

☐ **yes – on average, how many days per week? _____**

PP-6: northern park and waterfront until Torre Vasco da Gama: Jardim do Passeio dos Heróis do Mar and Parque Tejo - *How often are you here for the activities mentioned below?*

	Never	**Almost never**	**(Almost) monthly**	**(Almost) weekly**	**(Almost) daily**
How often are you along the **waterfront** here?					
How often do you **sit or relax outside** here?					
How often do you **cycle or step** here?					
How often do you **walk or jog** here?					
How often do you **do other sports activities** here?					

The following table presents statements about Parque das Nações, in which you can select your degree of agreement with the statements (Please put one X, one box, for each statement)

Statements about Parque das Nãçoes

	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Parque das Nações' facilities are **affordable** for me					
Parque das Nações has **sufficient public space**					
Parque das Nações has **sufficient entertainment** for me					
Parque das Nações has **sufficient jobs that are suitable for me**					
Parque das Nações has **good accessibility**					
Parque das Nações is an area **designated for tourism**					
I **like living close** to the **Tejo** River					

Finally, please answer the last questions by selecting the right answer

What is your most used mode of transportation to Parque das Nações?

☐ Walking ☐ Cycling ☐ (Electrical) step

☐ Metro ☐ Bus ☐ Train

☐ Car or other motorized private transportation ☐ Not applicable

What is your net monthly income (personal income minus income tax), approximately?

☐ 700 Euro or less ☐ 700 to 900 Euro ☐ 900 to 1200 Euro

☐ 1200 to 1700 Euro ☐ 1700 Euro or more ☐ Do not want to answer

What is your gender?

☐ Male ☐ Female ☐ Do not want to answer

What is your age? _____ years

Thank you for filling out the survey!

If you still want to say something about Parque das Nações please write it down below. If you would like to have more information about the results of the research, you can also leave your contact details!

Appendix 3: Street survey of Olivais inhabitants in Portuguese

Olá. Sou uma estudante da licenciatura em holandês que está a trabalhar na minha tese aqui em Lisboa, associada à Universidade NOVA de Lisboa. Estou a pesquisar quem usa o Parque das Nações; quais áreas e quais funções. A sua participação na pesquisa é voluntária e você pode desistir a qualquer momento. As respostas fornecidas são anônimas e permanecerão confidenciais. Além disso, qualquer informação obtida será usada exclusivamente para fins de pesquisa. Se você tiver alguma dúvida ou preocupação, sinta-se à vontade para enviar um e-mail para Fien Kremer (f.v.kremer@student.rug.nl). A pesquisa levará aproximadamente 3 minutos para ser concluída.

Ao continuar, você declara o seguinte:

- Fui suficientemente informado sobre o objetivo desta pesquisa.

- Tem 18 anos ou mais.

- Li as informações acima mencionadas e entendo o que se espera de mim.

- Sei que minha participação é voluntária e fui informado sobre meus direitos.

- Sei que posso desistir da pesquisa a qualquer momento.

- Concordo com a participação nesta pesquisa.


PP-5
PP-6
PP-4
PP-1
PP-2
PP-3

As próximas três tabelas representam as áreas do Parque das Nacões, conforme mostra o mapa. Por favor, selecione, colocando um X em uma das Caixa, por atividade, indicando qual a frequência que realizas as atividades indicadas abaixo, no local referido.

PP-1: Centro commercial Vasco da Gama - *Com que frequência realizas as atividades abaixo mencionadas?*

	Nunca	**Quase nunca**	**(Quase) mensalmente**	**(Quase) semanalmente**	**(Quase) diariamente**
Com que frequência **faz compras** no centro comercial Vasco da Gama?					
Com que frequência **come** ou **bebe** algo aqui?					

Trabalha no centro comercial Vasco da Gama?

☐ **não** ☐ **sim – em média, quantos dias por semana?_____**

PP-2: área atrás do shopping Vasco da Gama, e a orla até a Torre Vasco da Gama - *Com que frequência realizas as atividades abaixo mencionadas?*

	Nunca	**Quase nunca**	**(Quase) mensalmente**	**(Quase) semanalmente**	**(Quase) diariamente**
Com que frequência **faz compras** aqui**?**					
Com que frequência **bebe** ou **come** algo aqui**?**					
Com que frequência visita o **aquário**?					
Com que frequência participa de um **evento** aqui?					
Com que frequência visita o **museu** ou **teatro** aqui?					
Com que frequência visita o **casino**?					
Quantas vezes **está à beira-rio** (Tejo) aqui?					
Com que frequência **pedala** ou **usa a trotinete** aqui?					
Com que frequência **caminha** ou **corre** aqui?					
Com que frequência se **senta** ou **relaxa lá fora** desta zona?					

Trabalha nesta área? ☐ **não**

☐ **sim – em média, quantos dias por semana?_____**

PP-6: parque norte e zona ribeirinha até à Torre Vasco da Gama: Jardim do Passeio dos Heróis do Mar e Parque Tejo - *Com que frequência vem para as atividades abaixo mencionadas?*

	Nunca	**Quase nunca**	**(Quase) menssalmente**	**(Quase) semenalmente**	**(Quase) diariamente**
Quantas vezes **está à beira-rio** (Tejo) aqui?					
Com que frequência se **senta** ou **relaxa lá fora** daqui?					
Com que frequência **pedala** ou **usa a trotinete** aqui?					
Com que frequência **caminha** ou **corre** aqui?					
Com que frequência pratica **outras atividades desportivas** aqui?					

A tabela seguinte apresenta afirmações sobre o Parque das Nações, em que pode selecionar o seu grau de concordância com as afirmações (Por favor, coloque um X, numa caixa, para cada afirmação)

Afirmações sobre o Parque das Nações

	Discordo fortemente	**Discordo**	**Neutro**	**Concordo**	**Concordo fortemente**
As instalações do Parque das Nações são **acessíveis** para mim					
Parque das Nações tem **suficiente espaço público**					
O Parque das Nações tem **suficiente animação** para mim					
O Parque das Nações tem **suficientes empregos adequados** para mim					
Parque das Nações tem **boa acessibilidade**					
O Parque das Nações é uma área **destinada ao turismo**					
Gosto de viver perto do Rio **Tejo**					

Por fim, responda às últimas perguntas gerais (coloque um X a resposta certa)

Qual é o seu meio de transporte mais utilizado para te deslocares ao Parque das Nações?

☐ Caminhar ☐ Bicicleta ☐ Trotinete (eléctrica)

☐ Metrô ☐ Autocarro ☐ Comboio

☐ Carro ou outro transporte privado motorizado ☐ Não quero responder

Qual é o seu salário mensal líquido (salário pessoal menos imposto de salário), aproximadamente

☐ 700 Euro ou menos ☐ 700 a 900 Euro ☐ 900 a 1200 Euro

☐ 1200 a 1700 Euro ☐ 1700 Euro ou mais

☐ Não quero responder

Qual é o seu sexo?

☐ Homem ☐ Mulher ☐ Outro ☐ Não quero responder

Qual é a sua idade? _____ anos

Obrigada por preencher a pesquisa! Se ainda quiser dizer algo sobre o Parque das Nações, escreva abaixo. Se você gostaria de ter mais informações sobre os resultados da pesquisa, pode deixar os teus dados de contacto também!

Appendix 4: Street survey Parque das Nações' waterfront users

Hello. I am a Dutch bachelor student that is working on my thesis here in Lisbon, associated with Universidade NOVA de Lisbon. I am researching who uses Parque das Nações; which areas and which functions. Your participation in the research is voluntary and you may withdraw at any time. The provided responses are anonymous and will remain confidential. Furthermore, any obtained information will be used for research purposes solely. If you have any questions or concerns, feel free to send an email to Fien Kremer (f.v.kremer@student.rug.nl). The survey will take approximately 1 minute to complete.

By continuing, you declare the following:

- *I have been sufficiently informed about the purpose of this research.*
- *I am 18 or older.*
- *I have read the above-mentioned information and understand what is expected from me.*
- *I know my participation is voluntary and I have been informed about my rights.*
- *I know I can withdraw from the research at any moment.*
- *I agree with the participation in this research.*

Please select the right answer to the following questions

1. Do you live in Parque das Nações?

☐ Yes

☐ No - **Are you a tourist?** ☐ yes, a foreign tourist

☐ yes, a domestic tourist

☐ no – I am not a tourist

2. What is your most used mode of transportation to travel to Parque das Nações?

☐ Walking ☐ Cycling ☐ (Electric) step

☐ Metro ☐ Bus ☐ Train

☐ Car or other motorized private transportation ☐ Do not want to answer

3. What is your gender?

☐ Male ☐ Female ☐ Other ☐ Do not want to answer

4. What is your net monthly income (personal income minus income tax), approximately?

☐ 700 Euro or less ☐ 700 to 900 Euro ☐ 900 to 1200 Euro

☐ 1200 to 1600 Euro ☐ 1700 Euro or more ☐ Do not want to answer

5. What is your age? _____ years

Thank you for filling out the survey! If you still want to say something about Parque das Nações please write it down below. If you would like to have more information about the results of the research, you can also leave your contact details!

Appendix 5: Street survey Parque das Nações' waterfront users in Portuguese

Olá. Sou uma estudante da licenciatura em holandês que está a trabalhar na minha tese aqui em Lisboa, associada à Universidade NOVA de Lisboa. Estou a pesquisar quem usa o Parque das Nações; quais áreas e quais funções. A sua participação na pesquisa é voluntária e você pode desistir a qualquer momento. As respostas fornecidas são anônimas e permanecerão confidenciais. Além disso, qualquer informação obtida será usada exclusivamente para fins de pesquisa. Se você tiver alguma dúvida ou preocupação, sinta-se à vontade para enviar um e-mail para Fien Kremer (f.v.kremer@student.rug.nl). A pesquisa levará aproximadamente 1 minuto para ser concluída.

Ao continuar, você declara o seguinte:

- Fui suficientemente informado sobre o objetivo desta pesquisa.

- Tem 18 anos ou mais.

- Li as informações acima mencionadas e entendo o que se espera de mim.

- Sei que minha participação é voluntária e fui informado sobre meus direitos.

- Sei que posso desistir da pesquisa a qualquer momento.

- Concordo com a participação nesta pesquisa.

Por favor, selecione a resposta certa nas seguintes perguntas

1. Você mora no Parque das Nações?

☐ Sim

☐ Não - **É um turista?** ☐ sim, um turista estrangeira

☐ sim, um turista doméstica

☐ não – eu não sou turista

2. Qual é o seu meio de transporte mais utilizado para se deslocar ao Parque das Nações?

☐ Caminhar ☐ Bicicleta ☐ Trotinete (eléctrica)

☐ Metrô ☐ Autocarro ☐ Comboio

☐ Carro ou outro transporte privado motorizado ☐ Não quero responder

3. Qual é o seu sexo?

☐ Homem ☐ Mulher ☐ Outro ☐ Não quero responder

4. Qual é o seu salário mensal líquida (salário pessoal menos imposto de salário), aproximadamente?

☐ 700 Euro ou menos ☐ 700 a 900 Euro ☐ 900 a 1200 Euro

☐ 1200 a 1700 Euro ☐ 1700 Euro ou mais

☐ Não quero responder

5. Qual é a sua idade? _____ Anos

Obrigada por preencher a pesquisa! Se ainda quiser dizer algo sobre o Parque das Nações, escreva abaixo. Se você gostaria de ter mais informações sobre os resultados da pesquisa, pode deixar os teus dados de contacto também!

Appendix 6: Demography of samples (age, gender, impact on income)

Olivais: gender and age

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	61	21	69	44,02	13,039
Valid N (listwise)	61				

Figure 9. Descriptive table for age, Olivais sample

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	36,9	36,9	36,9
	Female	41	63,1	63,1	100,0
	Total	65	100,0	100,0	

Figure 10. Frequency table for gender, Olivais sample

Parque das Nações' waterfront users: gender and age

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	52	19	85	37,81	14,914
Valid N (listwise)	52				

Figure 11. Descriptive table for age, PdN sample

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	30	57,7	57,7	57,7
	Female	22	42,3	42,3	100,0
	Total	52	100,0	100,0	

Figure 12. Frequency table for gender, PdN sample

Demographical impacts on income in Olivais sample

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Personal net monthly income	59	90,8%	6	9,2%	65	100,0%

Figure 13. Case processing summary for crosstabulations for gender x income, Olivais sample

*Gender * Personal net monthly income Crosstabulation*

			Personal net monthly income					
			Very Low Income	Low Income	Middle Income	High Income	Very High Income	Total
Gender	Male	Count	4	2	4	6	7	23
		% within Gender	17,4%	8,7%	17,4%	26,1%	30,4%	100,0%
		% within Personal net monthly income	40,0%	33,3%	28,6%	37,5%	53,8%	39,0%
		% of Total	6,8%	3,4%	6,8%	10,2%	11,9%	39,0%
	Female	Count	6	4	10	10	6	36
		% within Gender	16,7%	11,1%	27,8%	27,8%	16,7%	100,0%
		% within Personal net monthly income	60,0%	66,7%	71,4%	62,5%	46,2%	61,0%
		% of Total	10,2%	6,8%	16,9%	16,9%	10,2%	61,0%
Total		Count	10	6	14	16	13	59
		% within Gender	16,9%	10,2%	23,7%	27,1%	22,0%	100,0%
		% within Personal net monthly income	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		% of Total	16,9%	10,2%	23,7%	27,1%	22,0%	100,0%

Figure 14. Crosstabulations for gender x income, Olivais sample

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Personal net monthly income * Gender	104	87,4%	15	12,6%	119	100,0%

Figure 15. Case processing summary for crosstabulations for gender x income, samples combined

*Personal net monthly income * Gender Crosstabulation*

		Personal net monthly income															
		Very Low Income			Low Income			Middle Income			High Income			Very High Income			Total		
		Count	% within Personal net monthly income	% within Gender	Count	% within Personal net monthly income	% within Gender	Count	% within Personal net monthly income	% within Gender	Count	% within Personal net monthly income	% within Gender	Count	% within Personal net monthly income	% within Gender	Count	% within Personal net monthly income	% within Gender
Gender	Male	11	55,0%	21,6%	7	63,6%	13,7%	10	37,0%	19,6%	9	40,9%	17,6%	14	58,3%	27,5%	51	49,0%	100,0%
	Female	9	45,0%	17,0%	4	36,4%	7,5%	17	63,0%	32,1%	13	59,1%	24,5%	10	41,7%	18,9%	53	51,0%	100,0%
Total		20	100,0%	19,2%	11	100,0%	10,6%	27	100,0%	26,0%	22	100,0%	21,2%	24	100,0%	23,1%	104	100,0%	100,0%

Figure 16. Crosstabulations for gender x income, samples combined

Correlations

			Personal net monthly income	*Age*
Spearman's rho	Personal net monthly income	Correlation Coefficient	1,000	,314*
		Sig. (2-tailed)	.	,019
		N	59	56
	Age	Correlation Coefficient	,314*	1,000
		Sig. (2-tailed)	,019	.
		N	56	61

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 17. Spearman correlation for income x age, Olivais sample

Correlations

			Personal net monthly income	*Age*
Spearman's rho	Personal net monthly income	Correlation Coefficient	1,000	,401**
		Sig. (2-tailed)	.	<,001
		N	104	102
	Age	Correlation Coefficient	,401**	1,000
		Sig. (2-tailed)	<,001	.
		N	102	114

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 18. Spearman correlation for income x age, samples combined

Appendix 7: Statistics for 'Income and exclusion'

Descriptive statistics tables

		Low Income (N=16)	*Middle Income (N=14)*	*High Income (N=29)*	*Total (N=65)*
PP-1					
	Never	6,3%	7,1%	0,0%	***3,4%***
	Now and then	62,5%	71,4%	69,9%	***67,8%***
	Frequently	31,3%	21,4%	31,0%	***28,8%***
PP-2					
	Never	0,0%	0,0%	6,9%	***4,6%***
	Now and then	100,0%	100,0%	93,1%	***95,4%***
	Frequently	0,0%	0,0%	0,0%	***0,0%***
PP-6					
	Never	6,3%	7,1%	10,3%	***8,5%***
	Now and then	87,5%	92,9%	69,0%	***79,7%***
	Frequently	6,3%	0,0%	20,7%	***11,9%***
Total Area					
	Never	0,0%	7,1%	3,4%	***3,4%***
	Now and then	100,0%	92,9%	89,7%	***93,2%***
	Frequently	0,0%	0,0%	6,9%	***3,4%***

* all percentages are valid percents

Figure 19. Crosstabulation zones x income

		Low Income (N=16)	*Middle Income (N=14)*	*High Income (N=29)*	*Total (N=65)*
Shopping					
	Never	6,3%	7,1%	0,0%	***3,4%***
	Now and then	68,8%	85,7%	82,8%	***79,7%***
	Frequently	25,0%	7,1%	17,2%	***16,9%***
Eating and Drinking					
	Never	6,3%	7,1%	6,9%	***6,8%***
	Now and then	68,8%	85,7%	79,3%	***78,0%***
	Frequently	25,0%	7,1%	13,8%	***15,3%***
Paid Leisure					
	Never	25,0%	21,4%	13,8%	***18,5%***
	Now and then	75,0%	78,6%	86,2%	***81,5%***
	Frequently	0,0%	0,0%	0,0%	***0,0%***
Free Leisure					
	Never	6,3%	7,1%	3,4%	***5,1%***
	Now and then	87,5%	92,9%	72,4%	***81,4%***
	Frequently	6,3%	0,0%	24,1%	***13,6%***
Waterfront					
	Never	0,0%	0,0%	3,4%	***1,7%***
	Now and then	81,3%	71,4%	58,6%	***67,8%***
	Frequently	18,8%	28,6%	37,9%	***30,5%***

* all percentages are valid percents

Figure 20. Crosstabulation functions x income

	Low Income (N=16)		Middle Income (N=14)		High Income (N=29)		***Total Average (N=59)***	
	Mean	*Std. Deviation*	*Mean*	*Std. Deviation*	*Mean*	*Std. Deviation*	*Mean*	*Std. Deviation*
PP-1	1,156	0,539	1,071	0,475	1,172	0,428	***1,154***	***0,459***
PP-2	0,856	0,231	0,779	0,275	0,921	0,340	***0,863***	***0,299***
PP-6	0,825	0,399	0,843	0,325	1,041	0,541	***0,935***	***0,450***
Total Average	***0,946***	***0,271***	***0,898***	***0,293***	***1,045***	***0,380***		
Shopping	1,031	0,386	0,893	0,525	1,086	0,402	***1,046***	***0,439***
Eating and Drinking	1,125	0,465	0,929	0,432	1,017	0,433	***1,038***	***0,445***
Paid Leisure	0,641	0,387	0,607	0,336	0,733	0,306	***0,677***	***0,324***
Free Leisure	0,821	0,367	0,827	0,313	1,020	0,534	***0,903***	***0,440***
Waterfront	1,188	0,403	1,143	0,363	1,241	0,577	***1,208***	***0,467***
Total Average	***0,961***	***0,246***	***0,880***	***0,264***	***1,019***	***0,359***		

* 0=never, 1=now and then, 2=frequently

Figure 21. Average scores for functions and zones per income group

Multiple regression for dependent = Score Total Usage

For this multiple regression test, the Low Income category is chosen as the reference category, since this has the lowest Total Average Score for the usage of Parque das Nações, this can be seen in Figure 3 (in text).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,249[a]	,062	-,042	9,22853

a. Predictors: (Constant), Gender, High Income, Age, Very Low Income, Middle Income, Very High Income

Figure 22. Model summary for multiple regression for dependent = Score Total Usage

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	304,094	6	50,682	,595	,733[b]
	Residual	4598,955	54	85,166		
	Total	4903,049	60			

a. Dependent Variable: Score Total Usage

b. Predictors: (Constant), Gender, High Income, Age, Very Low Income, Middle Income, Very High Income

Figure 23. ANOVA table for multiple regression for dependent = Score Total Usage

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	25,818	6,585		3,921	<,001		
	Very Low Income	2,502	4,076	,103	,614	,542	,613	1,631
	Middle Income	-1,657	3,816	-,076	-,434	,666	,572	1,749
	High Income	,584	3,685	,028	,159	,875	,554	1,804
	Very High Income	5,149	4,064	,228	1,267	,211	,535	1,869
	Age	-,102	,099	-,148	-1,032	,307	,847	1,180
	Gender	,619	2,619	,032	,236	,814	,923	1,083

a. Dependent Variable: Score Total Usage

Figure 24. Coefficients table for multiple regression for dependent = Score Total Usage

Multiple regression analysis for dependent = Score Waterfront

Very High Income is chosen as the reference category for this test since it has the highest score. Very Low Income has the lowest score, but since this is a category of interest, relating to sub-question 2, it is not used as a reference category. Please refer to Figure 3 (in text).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,457[a]	,209	,104	1,44275

a. Predictors: (Constant), Low Income, Gender, Age, High Income, Score Private Space, Very Low Income, Middle Income

Figure 25. Model summary for multiple regression for dependent = Score Waterfront

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,089	7	4,156	1,996	,073[b]
	Residual	110,321	53	2,082		
	Total	139,410	60			

a. Dependent Variable: Score Waterfront

b. Predictors: (Constant), Low Income , Gender, Age , High Income , Score Private Space , Very Low Income , Middle Income

Figure 26. ANOVA table for multiple regression for dependent = Score Waterfront

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3,256	1,168		2,789	,007		
	Very Low Income	-,745	,598	-,182	-1,246	,218	,696	1,436
	Low Income	,661	,740	,130	,893	,376	,702	1,425
	Middle Income	-,019	,599	-,005	-,031	,975	,568	1,760
	High Income	-,240	,534	-,068	-,449	,655	,646	1,548
	Age	-,010	,016	-,084	-,623	,536	,829	1,206
	Gender	-,244	,403	-,076	-,606	,547	,952	1,050
	Score Private Space	,173	,052	,444	3,346	,002	,847	1,181

a. Dependent Variable: Score Waterfront

Figure 27. Coefficients table for multiple regression for dependent = Score Waterfront

Chi-Square test for income x sample

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Personal net monthly income * Sample	104	87,4%	15	12,6%	119	100,0%

Figure 28. Case processing summary for Chi-Square

*Personal net monthly income * Sample Crosstabulation*

Count

		Sample		
		Parque das Nações	Olivais	Total
Personal net monthly income	Very Low Income	10	10	20
	Low Income	5	6	11
	Middle Income	13	14	27
	High Income	6	16	22
	Very High Income	11	13	24
Total		45	59	104

Figure 29. Crosstabulation count for Chi-Square

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3,010[a]	4	,556
Likelihood Ratio	3,121	4	,538
N of Valid Cases	104		

a. 1 cells (10,0%) have expected count less than 5. The minimum expected count is 4,76.

Figure 30. Chi-Square tests

Appendix 8: Statistics for 'Parque das Nações: improvements, living and working'

Affirmations

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*	*N*
***Facilities** , affordability*	1,5%	0,0%	13,8%	50,8%	33,8%	*65*
***Public space** , sufficiency*	0,0%	3,1%	3,1%	53,1%	40,6%	*64*
***Entertainment** , sufficiency*	3,1%	10,8%	24,6%	44,6%	16,9%	*65*
***Jobs** , adequacy*	14,1%	7,8%	45,3%	18,8%	14,1%	*64*
Accessibility	1,5%	7,7%	7,7%	47,7%	35,4%	*65*
***Tourism** , destined for*	1,5%	7,7%	27,7%	30,8%	32,3%	*65*
***Tejo** , like living close*	3,1%	3,1%	3,1%	32,3%	58,5%	*65*

* all percentages are valid percents

Figure 31. Frequency table of the affirmations, in valid percents.

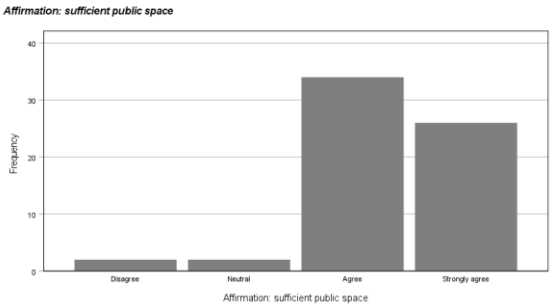


Figure 32. Distribution of sufficient public space

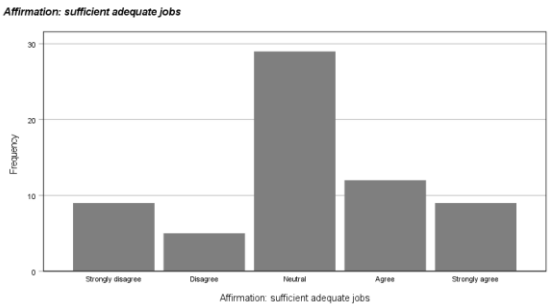


Figure 33. Distribution of sufficient adequate jobs

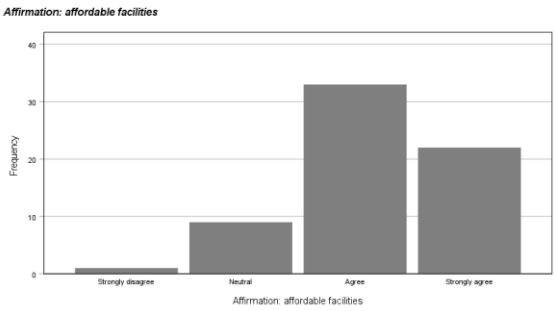


Figure 34. Distribution affordable facilities

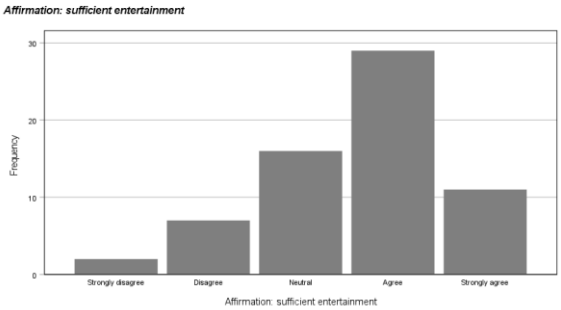


Figure 35. Distribution sufficient entertainment

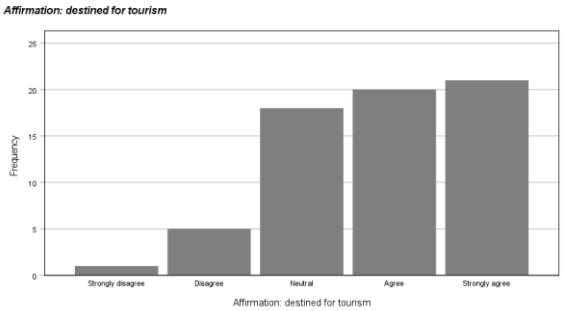


Figure 36. Distribution destined for tourism

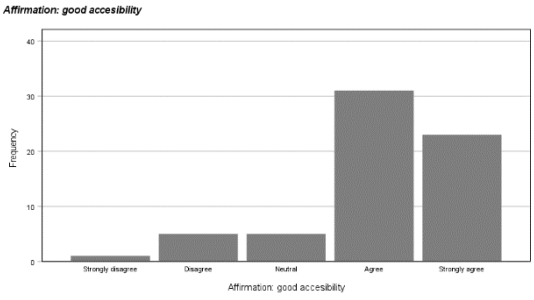


Figure 37. Distribution good accessibility

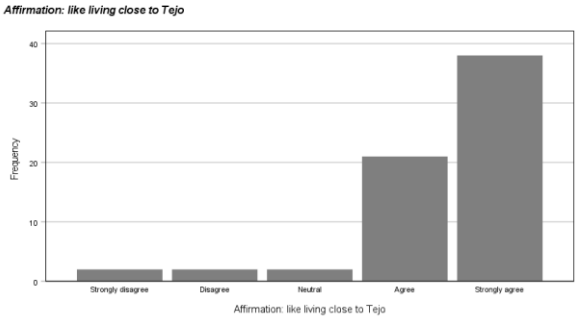


Figure 38. Distribution like living close to Tejo

Living aspect, Parque das Nações' waterfront users sample

Living in Parque das Nações

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	46	88,5	88,5	88,5
	Yes	6	11,5	11,5	100,0
	Total	52	100,0	100,0	

Figure 39. Frequency table for living in Parque das Nações

Tourist (yes/no, foreign/domestic)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Foreign tourist	9	17,3	18,0	18,0
	Domestic tourist	6	11,5	12,0	30,0
	No tourist/local	35	67,3	70,0	100,0
	Total	50	96,2	100,0	
Missing	System	2	3,8		
Total		52	100,0		

Figure 40. Frequency table for tourist

Working aspect, Olivais residents sample

Days per week (working, Vasco da Gama)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	1,5	100,0	100,0
Missing	System	64	98,5		
Total		65	100,0		

Figure 41. Frequency table for working; days per week, PP-1

Days per week (working, PP-2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	5	7,7	83,3	83,3
	6	1	1,5	16,7	100,0
	Total	6	9,2	100,0	
Missing	System	59	90,8		
Total		65	100,0		

Figure 42. Frequency table for working; days per week, PP-2

*Working in Vasco da Gama * Personal net monthly income Crosstabulation*
Count

		Personal net monthly income					
		Very Low Income	*Low Income*	*Middle Income*	*High Income*	*Very High Income*	*Total*
Working in Vasco da Gama	No	9	6	14	16	13	58
	Yes	1	0	0	0	0	1
Total		10	6	14	16	13	59

Figure 43. Crosstabulation working; days per week x income, PP-1

*Working in PP-2 * Personal net monthly income Crosstabulation*
Count

		Personal net monthly income					
		Very Low Income	*Low Income*	*Middle Income*	*High Income*	*Very High Income*	*Total*
Working in PP-2	No	8	6	13	14	13	54
	Yes	2	0	1	2	0	5
Total		10	6	14	16	13	59

Figure 44. Crosstabulation working; days per week x income, PP-2

Appendix 9: Syntax Olivais

```
GET DATA
  /TYPE=XLSX
  /FILE='C:\Users\fienk\OneDrive\Documenten\RUG\bachelor
project\PdN\RS4\OLIVAIS\EXTRACT Olivais '+
    '(Responses) (1).xlsx'
  /SHEET=name 'Form Responses 1'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE.

DESCRIPTIVES VARIABLES=age
  /STATISTICS=MEAN STDDEV MIN MAX.

FREQUENCIES VARIABLES=income
  /BARCHART FREQ
  /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=gender
  /ORDER=ANALYSIS.

NONPAR CORR
  /VARIABLES=income age
  /PRINT=SPEARMAN TWOTAIL NOSIG FULL
  /MISSING=PAIRWISE.

CROSSTABS
  /TABLES=gender BY income
  /FORMAT=AVALUE TABLES
```

```
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL.

COMPUTE SUM_PP1=SUM(PP1_shopping,PP1_eating_drinking,PP1_working_days).
VARIABLE LABELS  SUM_PP1 'Score PP-1'.
EXECUTE.

COMPUTE
SUM_PP2=SUM(PP2_shopping,PP2_eating_drinking,PP2_working_days,PP2_aquarium,PP2_ev
ents,PP2_museum_theatre,PP2_casino,PP2_waterfront,PP2_cycling_stepping,PP2_walking_ru
nning,PP2_sit_relax_outside).
VARIABLE LABELS  SUM_PP2 'Score PP-2'.
EXECUTE.

COMPUTE
SUM_PP6=SUM(PP6_waterfront,PP6_sit_relax_outside,PP6_cycling_stepping,PP6_walking_ru
nning.PP6_other_sports).
VARIABLE LABELS  SUM_PP6 'Score PP-6'.
EXECUTE.

COMPUTE SUM_shopping=SUM(PP1_shopping,PP2_shopping).
VARIABLE LABELS  SUM_shopping 'Score Shopping'.
EXECUTE.

COMPUTE SUM_eating_drinking=SUM(PP1_eating_drinking,PP2_eating_drinking).
VARIABLE LABELS  SUM_eating_drinking 'Score Eating and drinking'.
EXECUTE.

COMPUTE
SUM_paid_leisure=SUM(PP2_aquarium,PP2_events,PP2_museum_theatre,PP2_casino).
EXECUTE.

COMPUTE
SUM_free_leisure=SUM(PP2_cycling_stepping,PP2_walking_running,PP2_sit_relax_outside,
```

```
   PP6_sit_relax_outside,PP6_cycling_stepping,PP6_walking_running,PP6_other_sports).
VARIABLE LABELS  SUM_free_leisure 'Score Free Leisure'.
EXECUTE.

COMPUTE SUM_waterfront=SUM(PP2_waterfront,PP6_waterfront).
VARIABLE LABELS  SUM_waterfront 'Score Waterfront'.
EXECUTE.

COMPUTE SUM_ALL=SUM(SUM_PP1,SUM_PP2,SUM_PP6).
VARIABLE LABELS  SUM_ALL 'Score Total Usage'.
EXECUTE.

COMPUTE av_score_PP1=(SUM(PP1_shopping,PP1_eating_drinking)) / 2.
VARIABLE LABELS  av_score_PP1 'Average Score PP-1'.
EXECUTE.

COMPUTE
av_score_PP2=(SUM(PP2_shopping,PP2_eating_drinking,PP2_aquarium,PP2_events,

PP2_museum_theatre,PP2_casino,PP2_waterfront,PP2_cycling_stepping,PP2_walking_runnin
g,
   PP2_sit_relax_outside)) / 10.
VARIABLE LABELS  av_score_PP2 'Average Score PP-2'.
EXECUTE.

COMPUTE av_score_PP6=(SUM(PP6_waterfront,PP6_cycling_stepping,PP6_walking_running,
   PP6_sit_relax_outside,PP6_other_sports)) / 5.
VARIABLE LABELS  av_score_PP6 'Average Score PP-6'.
EXECUTE.

COMPUTE av_score_shopping=(SUM(PP1_shopping,PP2_shopping)) / 2.
EXECUTE.
```

```
COMPUTE av_score_eating_drinking=(SUM(PP1_eating_drinking,PP2_eating_drinking)) / 2.
VARIABLE LABELS  av_score_eating_drinking 'Average Score Eating and Drinking'.
EXECUTE.

COMPUTE
av_score_paid_leisure=(SUM(PP2_aquarium,PP2_events,PP2_museum_theatre,PP2_casino)) /
4.
VARIABLE LABELS  av_score_paid_leisure 'Average Score Paid Leisure'.
EXECUTE.

COMPUTE
av_score_free_leisure=(SUM(PP2_cycling_stepping,PP2_walking_running,PP2_sit_relax_outsid
e,
   PP6_sit_relax_outside,PP6_cycling_stepping,PP6_walking_running,PP6_other_sports)) / 7.
VARIABLE LABELS  av_score_free_leisure 'Average Score Free Leisure'.
EXECUTE.

COMPUTE av_score_waterfront=(SUM(PP2_waterfront,PP6_waterfront)) / 2.
VARIABLE LABELS  av_score_waterfront 'Average Score Waterfront'.
EXECUTE.

EXAMINE VARIABLES=av_score_shopping av_score_eating_drinking av_score_paid_leisure
   av_score_free_leisure av_score_waterfront BY income
 /PLOT BOXPLOT NPPLOT
 /COMPARE GROUPS
 /STATISTICS DESCRIPTIVES
 /CINTERVAL 95
 /MISSING LISTWISE
 /NOTOTAL.

RECODE av_score_PP1 (SYSMIS=SYSMIS) (0 thru 0.499=1) (0.500 thru 2.499=2) (2.500 thru
4=3) INTO
```

```
   PP1_ordinal_from_avscore.
VARIABLE LABELS  PP1_ordinal_from_avscore 'PP-1'.
EXECUTE.

RECODE av_score_PP2 (SYSMIS=SYSMIS) (0 thru 0.499=1) (0.500 thru 2.499=2) (2.500 thru
4=3) INTO
   PP2_ordinal_from_avscore.
VARIABLE LABELS  PP2_ordinal_from_avscore 'PP-2'.
EXECUTE.

RECODE av_score_PP6 (SYSMIS=SYSMIS) (0 thru 0.499=1) (0.500 thru 2.499=2) (2.500 thru
4=3) INTO
   PP6_ordinal_from_avscore.
VARIABLE LABELS  PP6_ordinal_from_avscore 'PP-6'.
EXECUTE.

RECODE av_score_total (SYSMIS=SYSMIS) (0 thru 0.499=1) (0.500 thru 2.499=2) (2.500 thru
4=3) INTO
   total_ordinal_from_avscore.
VARIABLE LABELS  total_ordinal_from_avscore 'Total Area'.
EXECUTE.
RECODE PP1_shopping (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP1_shopping_k3.
VARIABLE LABELS  PP1_shopping_k3 'PP1_shopping_k3'.
EXECUTE.

RECODE PP1_eating_drinking (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP1_eating_drinking_k3.
VARIABLE LABELS  PP1_eating_drinking_k3 'PP1_eating_drinking_k3'.
EXECUTE.

RECODE PP2_shopping (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_shopping_k3.
VARIABLE LABELS  PP2_shopping_k3 'PP2_shopping_k3'.
EXECUTE.
```

```
RECODE PP2_eating_drinking (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_eating_drinking_k3.
VARIABLE LABELS  PP2_eating_drinking_k3 'PP2_eating_drinking_k3'.
EXECUTE.

RECODE PP2_aquarium (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_aquarium_k3.
VARIABLE LABELS  PP2_aquarium_k3 'PP2_aquarium_k3'.
EXECUTE.

RECODE PP2_events (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_events_k3.
VARIABLE LABELS  PP2_events_k3 'PP2_events_k3'.
EXECUTE.

RECODE PP2_museum_theatre (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_museum_theatre_k3.
VARIABLE LABELS  PP2_museum_theatre_k3 'PP2_museum_theatre_k3'.
EXECUTE.

RECODE PP2_casino (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_casino_k3.
VARIABLE LABELS  PP2_casino_k3 'PP2_casino_k3'.
EXECUTE.

RECODE PP2_waterfront (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_waterfront_k3.
VARIABLE LABELS  PP2_waterfront_k3 'PP2_waterfront_k3'.
EXECUTE.

RECODE PP2_cycling_stepping (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_cycling_stepping_k3.
VARIABLE LABELS  PP2_cycling_stepping_k3 'PP2_cycling_stepping_k3'.
EXECUTE.

RECODE PP2_walking_running (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_walking_running_k3.
VARIABLE LABELS  PP2_walking_running_k3 'PP2_walking_running_k3'.
```

```
EXECUTE.

RECODE PP2_sit_relax_outside (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP2_sit_relax_outside_k3.
VARIABLE LABELS  PP2_sit_relax_outside_k3 'PP2_sit_relax_outside_k3'.
EXECUTE.

RECODE PP6_waterfront (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP6_waterfront_k3.
VARIABLE LABELS  PP6_waterfront_k3 'PP6_waterfront_k3'.
EXECUTE.

RECODE PP6_sit_relax_outside (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP6_sit_relax_outside_k3.
VARIABLE LABELS  PP6_sit_relax_outside_k3 'PP6_sit_relax_outside_k3'.
EXECUTE.

RECODE PP6_cycling_stepping (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP6_cycling_stepping_k3.
VARIABLE LABELS  PP6_cycling_stepping_k3 'PP6_cycling_stepping_k3'.
EXECUTE.

RECODE PP6_walking_running (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP6_walking_running_k3.
VARIABLE LABELS  PP6_walking_running_k3 'PP6_walking_running_k3'.
EXECUTE.

RECODE PP6_other_sports (0=0) (1=1) (2=1) (3=2) (4=2) INTO PP6_other_sports_k3.
VARIABLE LABELS  PP6_other_sports_k3 'PP6_other_sports_k3'.
EXECUTE.

RECODE income (1=1) (2=1) (3=2) (4=3) (5=3) INTO Income_k3.
VARIABLE LABELS  Income_k3 ' Income'.
EXECUTE.

COMPUTE av_score_shopping_k3=(SUM(PP1_shopping_k3,PP2_shopping_k3)) / 2.
```

```
VARIABLE LABELS  av_score_shopping_k3 'av_score_shopping_k3'.
EXECUTE.

COMPUTE
av_score_eating_drinking_k3=(SUM(PP1_eating_drinking_k3,PP2_eating_drinking_k3)) / 2.
VARIABLE LABELS  av_score_eating_drinking_k3 'av_score_eating_drinking_k3'.
EXECUTE.

COMPUTE
av_score_paid_leisure_k3=(SUM(PP2_aquarium_k3,PP2_events_k3,PP2_museum_theatre_k3,
    PP2_casino_k3)) / 4.
VARIABLE LABELS  av_score_paid_leisure_k3 'av_score_paid_leisure_k3'.
EXECUTE.

COMPUTE
av_score_free_leisure_k3=(SUM(PP2_cycling_stepping_k3,PP2_walking_running_k3,
PP2_sit_relax_outside_k3,PP6_sit_relax_outside_k3,PP6_cycling_stepping_k3,PP6_walking_ru
nning_k3,
    PP6_other_sports_k3)) / 7.
EXECUTE.

COMPUTE av_score_waterfront_k3=(SUM(PP2_waterfront_k3,PP6_waterfront_k3)) / 2.
VARIABLE LABELS  av_score_waterfront_k3 'av_score_waterfront_k3'.
EXECUTE.

COMPUTE av_score_PP1_k3=(SUM(PP1_shopping_k3,PP1_eating_drinking_k3)) / 2.
VARIABLE LABELS  av_score_PP1_k3 'av_score_waterfront_k3'.
EXECUTE.

COMPUTE
av_score_PP2_k3=(SUM(PP2_shopping_k3,PP2_eating_drinking_k3,PP2_aquarium_k3,PP2_ev
ents_k3,
    PP2_museum_theatre_k3,PP2_casino_k3,PP2_waterfront_k3,PP2_cycling_stepping_k3,
```

```
   PP2_walking_running_k3,PP2_sit_relax_outside_k3)) / 10.
VARIABLE LABELS  av_score_PP2_k3 'av_score_PP2_k3'.
EXECUTE.

COMPUTE
av_score_PP6_k3=(SUM(PP6_waterfront_k3,PP6_sit_relax_outside_k3,PP6_cycling_stepping_
k3,
   PP6_walking_running_k3,PP6_other_sports_k3)) / 5.
VARIABLE LABELS  av_score_PP6_k3 'av_score_PP6_k3'.
EXECUTE.

COMPUTE av_score_ZONES_k3=(SUM(av_score_PP1_k3,av_score_PP2_k3,av_score_PP6_k3))
/ 3.
VARIABLE LABELS  av_score_ZONES_k3 'av_score_ZONES_k3'.
EXECUTE.

COMPUTE
av_score_FUNCTIONS_k3=(SUM(av_score_shopping_k3,av_score_eating_drinking_k3,
   av_score_paid_leisure_k3,av_score_free_leisure_k3,av_score_waterfront_k3)) / 5.
VARIABLE LABELS  av_score_FUNCTIONS_k3 'av_score_ZONES_k3'.
EXECUTE.

EXAMINE VARIABLES=av_score_PP1_k3 av_score_PP2_k3 av_score_PP6_k3
av_score_ZONES_k3 BY Income_k3
  /PLOT BOXPLOT STEMLEAF
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

EXAMINE VARIABLES=av_score_shopping_k3 av_score_eating_drinking_k3
av_score_paid_leisure_k3
```

```
  av_score_free_leisure_k3 av_score_waterfront_k3 av_score_FUNCTIONS_k3 BY Income_k3
 /PLOT BOXPLOT STEMLEAF
 /COMPARE GROUPS
 /STATISTICS DESCRIPTIVES
 /CINTERVAL 95
 /MISSING LISTWISE
 /NOTOTAL.

DESCRIPTIVES VARIABLES=av_score_PP1_k3 av_score_PP2_k3 av_score_PP6_k3
av_score_shopping_k3
  av_score_eating_drinking_k3 av_score_paid_leisure_k3 av_score_free_leisure_k3
av_score_waterfront_k3
 /STATISTICS=MEAN STDDEV.

FREQUENCIES VARIABLES=PP1_ordinal_from_avscore PP2_ordinal_from_avscore
PP6_ordinal_from_avscore
 /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=total_ordinal_from_avscore
 /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=shopping_ordinal_from_avscore
eating_drinking_ordinal_from_avscore
  paid_leisure_ordinal_from_avscore free_leisure_ordinal_from_avscore
waterfront_ordinal_from_avscore
 /ORDER=ANALYSIS.
DATASET ACTIVATE DataSet1.
* Chart Builder.
GGRAPH
 /GRAPHDATASET NAME="graphdataset" VARIABLES=total_ordinal_from_avscore
COUNT()[name="COUNT"]
  MISSING=LISTWISE REPORTMISSING=NO
 /GRAPHSPEC SOURCE=INLINE.
```

```
BEGIN GPL
  SOURCE: s=userSource(id("graphdataset"))
  DATA: total_ordinal_from_avscore=col(source(s), name("total_ordinal_from_avscore"),
    unit.category())
  DATA: COUNT=col(source(s), name("COUNT"))
  COORD: polar.theta(startAngle(0))
  GUIDE: axis(dim(1), null())
  GUIDE: legend(aesthetic(aesthetic.color.interior), label("Total Area"))
  GUIDE: text.title(label("Pie Chart Count of Total Area"))
  SCALE: linear(dim(1), dataMinimum(), dataMaximum())
  SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(total_ordinal_from_avscore))
END GPL.

CROSSTABS
  /TABLES=Income_k3 BY total_ordinal_from_avscore
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ CORR
  /CELLS=COUNT
  /COUNT ROUND CELL.

* Chart Builder.
GGRAPH
  /GRAPHDATASET NAME="graphdataset" VARIABLES=waterfront_ordinal_from_avscore
COUNT()[name="COUNT"]
    MISSING=LISTWISE REPORTMISSING=NO
  /GRAPHSPEC SOURCE=INLINE
    TEMPLATE=["C:\PROGRA~1\IBM\SPSSST~1\Looks\APA_Styles.sgt"].
BEGIN GPL
```

```
  SOURCE: s=userSource(id("graphdataset"))
  DATA: waterfront_ordinal_from_avscore=col(source(s),
name("waterfront_ordinal_from_avscore"),
    unit.category())
  DATA: COUNT=col(source(s), name("COUNT"))
  COORD: polar.theta(startAngle(0))
  GUIDE: axis(dim(1), null())
  GUIDE: legend(aesthetic(aesthetic.color.interior), label("Waterfront"))
  GUIDE: text.title(label("Pie Chart Count of Waterfront"))
  SCALE: linear(dim(1), dataMinimum(), dataMaximum())
  SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(waterfront_ordinal_from_avscore))
END GPL.
RECODE income (1=1) (ELSE=0) INTO dummy_very_low_income.
VARIABLE LABELS  dummy_very_low_income 'Very Low Income'.
EXECUTE.

* Encoding: UTF-8.

DATASET ACTIVATE DataSet1.
USE ALL.
COMPUTE filter_$=(Income_k3 = 1).
VARIABLE LABELS filter_$ 'Income_k3 = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

* Chart Builder.
```

```
GGRAPH
  /GRAPHDATASET NAME="graphdataset" VARIABLES=total_ordinal_from_avscore
COUNT()[name="COUNT"]
    MISSING=LISTWISE REPORTMISSING=NO
  /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
  SOURCE: s=userSource(id("graphdataset"))
  DATA: total_ordinal_from_avscore=col(source(s), name("total_ordinal_from_avscore"),
    unit.category())
  DATA: COUNT=col(source(s), name("COUNT"))
  COORD: polar.theta(startAngle(0))
  GUIDE: axis(dim(1), null())
  GUIDE: legend(aesthetic(aesthetic.color.interior), label("Total Area"))
  GUIDE: text.title(label("Pie Chart Count of Total Area"))
  SCALE: linear(dim(1), dataMinimum(), dataMaximum())
  SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(total_ordinal_from_avscore))
END GPL.


* Chart Builder.
GGRAPH
  /GRAPHDATASET NAME="graphdataset" VARIABLES=waterfront_ordinal_from_avscore
COUNT()[name="COUNT"]
    MISSING=LISTWISE REPORTMISSING=NO
  /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
  SOURCE: s=userSource(id("graphdataset"))
  DATA: waterfront_ordinal_from_avscore=col(source(s),
name("waterfront_ordinal_from_avscore"),
    unit.category())
```

```
 DATA: COUNT=col(source(s), name("COUNT"))
 COORD: polar.theta(startAngle(0))
 GUIDE: axis(dim(1), null())
 GUIDE: legend(aesthetic(aesthetic.color.interior), label("Waterfront"))
 GUIDE: text.title(label("Pie Chart Count of Waterfront"))
 SCALE: linear(dim(1), dataMinimum(), dataMaximum())
 SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
 ELEMENT: interval.stack(position(summary.percent(COUNT))),
  color.interior(waterfront_ordinal_from_avscore))
END GPL.

* Encoding: UTF-8.

DATASET ACTIVATE DataSet1.
USE ALL.
COMPUTE filter_$=(Income_k3 = 2).
VARIABLE LABELS filter_$ 'Income_k3 = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

* Chart Builder.
GGRAPH
 /GRAPHDATASET NAME="graphdataset" VARIABLES=total_ordinal_from_avscore
COUNT()[name="COUNT"]
  MISSING=LISTWISE REPORTMISSING=NO
 /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
 SOURCE: s=userSource(id("graphdataset"))
```

```
 DATA: total_ordinal_from_avscore=col(source(s), name("total_ordinal_from_avscore"),
   unit.category())
 DATA: COUNT=col(source(s), name("COUNT"))
 COORD: polar.theta(startAngle(0))
 GUIDE: axis(dim(1), null())
 GUIDE: legend(aesthetic(aesthetic.color.interior), label("Total Area"))
 GUIDE: text.title(label("Pie Chart Count of Total Area"))
 SCALE: linear(dim(1), dataMinimum(), dataMaximum())
 SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
 ELEMENT: interval.stack(position(summary.percent(COUNT))),
   color.interior(total_ordinal_from_avscore))
END GPL.

* Chart Builder.
GGRAPH
 /GRAPHDATASET NAME="graphdataset" VARIABLES=waterfront_ordinal_from_avscore
COUNT()[name="COUNT"]
   MISSING=LISTWISE REPORTMISSING=NO
 /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
 SOURCE: s=userSource(id("graphdataset"))
 DATA: waterfront_ordinal_from_avscore=col(source(s),
name("waterfront_ordinal_from_avscore"),
   unit.category())
 DATA: COUNT=col(source(s), name("COUNT"))
 COORD: polar.theta(startAngle(0))
 GUIDE: axis(dim(1), null())
 GUIDE: legend(aesthetic(aesthetic.color.interior), label("Waterfront"))
 GUIDE: text.title(label("Pie Chart Count of Waterfront"))
 SCALE: linear(dim(1), dataMinimum(), dataMaximum())
 SCALE: cat(aesthetic(aesthetic.color.interior), include(
```

```
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(waterfront_ordinal_from_avscore))
END GPL.

* Encoding: UTF-8.

DATASET ACTIVATE DataSet1.
USE ALL.
COMPUTE filter_$=(Income_k3 = 3).
VARIABLE LABELS filter_$ 'Income_k3 = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

* Chart Builder.
GGRAPH
  /GRAPHDATASET NAME="graphdataset" VARIABLES=total_ordinal_from_avscore
COUNT()[name="COUNT"]
    MISSING=LISTWISE REPORTMISSING=NO
  /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
  SOURCE: s=userSource(id("graphdataset"))
  DATA: total_ordinal_from_avscore=col(source(s), name("total_ordinal_from_avscore"),
    unit.category())
  DATA: COUNT=col(source(s), name("COUNT"))
  COORD: polar.theta(startAngle(0))
  GUIDE: axis(dim(1), null())
  GUIDE: legend(aesthetic(aesthetic.color.interior), label("Total Area"))
  GUIDE: text.title(label("Pie Chart Count of Total Area"))
```

```
  SCALE: linear(dim(1), dataMinimum(), dataMaximum())
  SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(total_ordinal_from_avscore))
END GPL.

* Chart Builder.
GGRAPH
  /GRAPHDATASET NAME="graphdataset" VARIABLES=waterfront_ordinal_from_avscore
COUNT()[name="COUNT"]
    MISSING=LISTWISE REPORTMISSING=NO
  /GRAPHSPEC SOURCE=INLINE.
BEGIN GPL
  SOURCE: s=userSource(id("graphdataset"))
  DATA: waterfront_ordinal_from_avscore=col(source(s),
name("waterfront_ordinal_from_avscore"),
    unit.category())
  DATA: COUNT=col(source(s), name("COUNT"))
  COORD: polar.theta(startAngle(0))
  GUIDE: axis(dim(1), null())
  GUIDE: legend(aesthetic(aesthetic.color.interior), label("Waterfront"))
  GUIDE: text.title(label("Pie Chart Count of Waterfront"))
  SCALE: linear(dim(1), dataMinimum(), dataMaximum())
  SCALE: cat(aesthetic(aesthetic.color.interior), include(
"1.00", "2.00", "3.00"))
  ELEMENT: interval.stack(position(summary.percent(COUNT))),
    color.interior(waterfront_ordinal_from_avscore))
END GPL.

* Encoding: UTF-8.
```

```
DATASET ACTIVATE DataSet1.
RECODE income (2=1) (ELSE=0) INTO dummy_low_income.
VARIABLE LABELS  dummy_low_income 'Low Income'.
EXECUTE.


RECODE income (3=1) (ELSE=0) INTO dummy_middle_income.
VARIABLE LABELS  dummy_middle_income 'Middle Income'.
EXECUTE.

RECODE income (4=1) (ELSE=0) INTO dummy_high_income.
VARIABLE LABELS  dummy_high_income 'High Income'.
EXECUTE.

RECODE income (5=1) (ELSE=0) INTO dummy_very_high_income.
VARIABLE LABELS  dummy_very_high_income 'Very High Income'.
EXECUTE.

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT SUM_ALL
  /METHOD=ENTER dummy_very_low_income dummy_middle_income age
dummy_high_income
    dummy_very_high_income gender.

COMPUTE
SUM_Private_Space=SUM(SUM_shopping,SUM_eating_drinking,SUM_paid_leisure).
VARIABLE LABELS  SUM_Private_Space 'Score Private Space'.
EXECUTE.
```

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT SUM_waterfront
  /METHOD=ENTER dummy_very_low_income dummy_low_income dummy_middle_income
age  dummy_high_income gender
    SUM_Private_Space.

FREQUENCIES VARIABLES=AFF_affordability AFF_public_space AFF_entertainment AFF_jobs
    AFF_accesibility AFF_tourism AFF_Tejo
  /BARCHART FREQ
  /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=PP1_working_binary PP2_working_binary
  /ORDER=ANALYSIS.

FREQUENCIES VARIABLES=PP1_working_days PP2_working_days
  /ORDER=ANALYSIS.

CROSSTABS
  /TABLES=PP1_working_binary PP2_working_binary BY income
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Appendix 10: Syntax Parque das Nações

```
GET DATA
  /TYPE=XLSX
  /FILE='C:\Users\fienk\OneDrive\Documenten\RUG\bachelor
project\PdN\RS4\PDN\PdN_coded.xlsx'
  /SHEET=name 'Form Responses 1'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE.
DATASET NAME DataSet2 WINDOW=FRONT.


DESCRIPTIVES VARIABLES=age
  /STATISTICS=MEAN STDDEV MIN MAX.


FREQUENCIES VARIABLES=income
  /BARCHART FREQ
  /ORDER=ANALYSIS.


FREQUENCIES VARIABLES=gender
  /ORDER=ANALYSIS.


FREQUENCIES VARIABLES=living
  /ORDER=ANALYSIS.


FREQUENCIES VARIABLES=tourist
  /ORDER=ANALYSIS.
```

Appendix 11: Syntax merged income dataset for Chi Square test

```
GET DATA
  /TYPE=XLSX
  /FILE='C:\Users\fienk\OneDrive\Documenten\RUG\bachelor project\PdN\RS4\income_merge'
  /SHEET=name 'Form Responses 1'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE.
DATASET NAME DataSet2 WINDOW=FRONT.

CROSSTABS
  /TABLES=Whatisyournetmonthlyincomepersonalincomeminusincometaxapproximat BY Sample
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.

NONPAR CORR
  /VARIABLES=Whatisyournetmonthlyincomepersonalincomeminusincometaxapproximat Age
  /PRINT=SPEARMAN TWOTAIL NOSIG FULL
  /MISSING=PAIRWISE.

CROSSTABS
  /TABLES=Whatisyournetmonthlyincomepersonalincomeminusincometaxapproximat BY Gender
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```