The influence of PBSAs on community cohesion in established neighbourhoods

A Paddepoel Case study

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Abstract: This research explores the relationship between purpose built student complexes (PBSAs) and community cohesion. PBSAs are often high rise buildings specifically designed for students to meet their needs and desires. The development of PBSAs in established neighbourhoods can result in a variety of social issues, among which an increased feeling of studentification. Established residents in such neighbourhoods could experience discourses of dispossession (such as loss of ownership), nuisance and loss of place attachment. This study has examined a case study of a neighbourhood in Groningen, namely Paddepoel. This neighbourhood is a unique case due to the high number of PBSAs developed in recent years. Four domains of social cohesion ('common values and a civic culture', 'social order and social control', 'social networks and social capital', 'place attachment and identity') in the neighbourhood have been investigated with help of a questionnaire. The results have shown that respondents experience limited nuisance and disturbance by students or PBSAs. Respondents have not felt less at home, and the majority states that students improve the livelihood of the neighbourhood. This is remarkable, as many of the respondents are categorized as 'long-term residents', whom are often more likely to experience negative effects of studentification. In the research, contrary to what was hypothesized, there is no relation between living in proximity to PBSA and decreasing community cohesion in the Paddepoel neighbourhood. It is recommended to do further research on either a smaller geographical scale (e.g. street level) including qualitative research methods to inquire insights in more in depth community cohesion experiences. Furthermore, repeating this research with a larger sampling size in the future could give insights into the changing dynamics of community cohesion within the neighbourhood.

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Figures title page: PBSA Atlas & Pleione, Pleiadenlaan/Dierenriemstraat (AAS, 2018), and PBSA Polars (Breij & Slager, 2018)

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1. An introduction into Paddepoel, a rapidly changing neighbourhood

Groningen and its challenge to house a growing student population.
The city of Groningen is often marketed as an attractive student city. According to the municipality and province; *'Groningen is an excellent student city. (…) Out of the 230.000 inhabitants of Groningen, 25% is student'.* (Groningen.nl, 2020). The city's two universities; the Hanzehogeschool and the Rijksuniversiteit Groningen (RUG) see increasing enrolment figures as can be seen in Table 1, especially international students. (Hanzehogeschool, 2015; Hanzehogeschool, 2018; Rijksuniversiteit Groningen, 2015; Rijksuniversiteit Groningen,2018).

Table 1: Overview of enrolment figures both universities in Groningen composed based on; Rijksuniversiteit Groningen 2015; Rijksuniversiteit Groningen 2018; Rijksuniversiteit Groningen 2019; Hanzehogeschool Groningen 2015; Hanzehogeschool Groningen 2018; Hanzehogeschool Groningen 2020.

University / Year		2015	2018	Most recent figures
Hanze Hogeschool	Total number of enrolled students	26.824	29.457	29.995 (Feb. 2020)
	Share of international students	2.024	2.596	N/A
	First year inflow	6.428	7.677	N/A
Rijksuniversiteit Groningen	Total number of enrolled students	28.310	31.515	32.700 (Oct. 2019)
	Share of international students	4.205	7.019	7.700 (Oct. 2019)
	First year inflow (both BSc and MSc)	6.356	8.074	N/A

A large percentage of the student population lives in HMOs, Housing in Multiple Occupation. Sage et al. (2013) (p. 2625) describes them as *"the wholesale conversion of single-family housing to student HMO, and the transformation of established residential communities into 'student areas"*. HMOs are known to create a feeling of displacement among established residents and changes the composition and family structures of the neighbourhood. Limiting this type of housing is seen as a way to maintain liveability in residential neighbourhoods as for many university towns, studentification has become a serious issue. (Sage, et al., 2012).

To meet the growing demand for student housing, the city of Groningen has made concrete plans for building 2740 additional housing units for the period 2019-2022. The city's student housing policies aim to expand student housing while limiting and decreasing *'verkamering'* (EN: HMOs); the loss of regular housing as a result of housing being remodelled into student housing (Hooft van Huijsduijnen, 2019).

To combat studentification and improve social diversity and 'community cohesion', policy makers have shifted their focus towards stimulating the development of PBSAs (Purpose Built Student Accommodation). PBSAs are often high-rise flats housing large numbers of students, whom often have their own or shared facilities. (Sage et al., 2013; Hubbard, 2009). Hubbard (2009) describes that PBSAs are typically built on brown-field sites near the city centre, with facilities, public transport and the university campus nearby.

Research problem

Mitigating studentification in Groningen: building PBSAs in Paddepoel
Paddepoel has been appointed by the municipality of Groningen as one of the four zones, suitable for new-build student housing. The municipality has steered the development of new-built student housing into the direction of the neighbourhood with a very clearly defined goal in their 'Structuurvisie Wonen 2010-2020': "*New living environments for young adolescents focusing on the Bodenterrein, Eendrachtskade, around Winkelcentrum Paddepoel and in the Reitdiep area".* (Gemeente Groningen, 2010, p. 35). This co-exists with the building policy 'Beleid Jongerenhuisvesting', where the municipality of Groningen aims to improve student housing, focussing on building new, high standard

student housing with individual facilities such as a kitchen and bathroom, in other words, PBSAs (Gemeente Groningen, 2020).

With the active appointment of the municipality of Groningen to built student housing in Paddepoel, the multiple brown-field sites in the neighbourhood, have been developed into PBSAs in recent years. (Staat in Groningen, sd). The neighbourhood shares multiple attractive features for the allocation of PBSAs, such as an attractive geographical location in between the campus and the inner city, it has a shopping centre nearby, and public transport options (Hubbard, 2009). Consequently, 'Campus Zonnelaan', 'Upsilon', 'Polaris' and 'Atlas & Pleione' have reshaped the neighbourhood with more than 1700 'luxe expensive student apartments' created in the neighbourhood and can be seen in figure 1 (Breij & Slager, 2018).

While PSBAs are seen as a 'panacea' by some policy makers to solve the negative impacts of studentification, these student accommodations bring along their own negative impacts such as decreased community cohesion and segregation between students and local communities (Hubbard, 2009). This is especially prominent when PBSAs are developed in pre-existing residential neighbourhoods where it can also strengthen the feeling of studentification among non-student residents (Sage, et al., 2013). This phenomenon could potentially decrease the community cohesion within Paddepoel and cause segregation, therefore it is relevant to study the impact of PBSAs on the neighbourhood.

Figure 1: Photo of Upsilon (L) and an architectural drawing of Polaris (R) (Breij & Slager, 2018)

Academic and societal relevance

Where British scholars have written extensively about studentification and the influence of PBSAs on neighbourhoods, in the Netherlands so-called 'town and gown relationships' are less researched. Sage et al. (2013) describes the relaxed approach to regulation for student housing in the United Kingdom, however, municipalities in the Netherlands have very proactive housing policies, regulating where building is allowed such as the 'Structuurvisie Wonen 2010-2020' (Gemeente Groningen, 2010). In addition, social housing corporations still play an active role in housing students as does the possibility to receive 'Huurtoeslag', described by Breij & Slager (2018). 'Huurtoeslag' is a conditional allowance from the Dutch government, which renters can receive under certain conditions, mainly when renters have a low enough income and their rent is not too high. (Rijksoverheid, s.d.)

In 2019, 'Studenten in Groningen: Een verkenning van de effecten van studentificatie in wijken in Groningen' by Rauws & Meelker (2019) explored the impact of studentification on social cohesion, safety, and nuisance in Groningen. 'De Grote Beerstraat' in Paddepoel was one of the research areas, home to 'Campus Zonnelaan'. While the PBSA and the non-student residency flat are located right across from each other, there was little contact between the two flats (Rauws & Meelker, 2019).

The neighbourhood has seen the arrival of multiple PBSAs and their impact on neighbourhoods and non-student residents can be thorough (Breij & Slager, 2018; Sage et al., 2013).

As Sage et al. (2012; 2013) have expressed that good regulation is key in mitigating effects of studentification. In order for Dutch municipalities and governments to create successful action plans on how to deal with student housing and studentification, research on student housing trends, demand and supply of student housing are necessary. As there is little research about the impact of

PBSAs in the Netherlands in general, and Paddepoel provides a unique case with multiple PBSAs in close proximity of each other, this research can contribute to this knowledge about the effects of PBSAs in established neighbourhoods in a Dutch context, and how it influences community cohesion, therefore making this research very relevant.

Research questions

The establishment of these PBSAs in Paddepoel could have serious consequences for the community cohesion. The aim of this research is therefore investigate the influence of these PBSAs on community cohesion in the Paddepoel neighbourhood, especially in this unique Dutch context.

Therefore this research aims to answer the question: '*How does living in proximity to a PBSA complex influence community cohesion among non-student residents in Paddepoel, Groningen?*'

The following subquestions have been formulated;

The first two sub-questions will shape the theoretical framework and conceptual model.
1) What has caused a rise in Purpose Built Student Accommodations in Europe over the past fifteen years?
2) How does the studentification of a neighbourhood influence community cohesion?

The last two sub-questions will be answered through empirical research.
3) How do non-student residents in Paddepoel experience community cohesion?
4) How do non-student residents in Paddepoel experience the presence of students and PBSAs in their neighbourhood?

Reading guide

In this research, the second chapter will dive into the theoretical framework, discussing the concepts of studentification, PBSAs and community cohesion. The framework will be summarized in the conceptual model. The third chapter will discus the methodology, talking about the application of a GIS sampling strategy for an online questionnaire. The chapter will also discuss how the data will be analysed. The fourth chapter will concern the results from the online questionnaire, divided into the three themes. The fifth chapter present the conclusion of this research, bridging the results and the theory. The final chapter includes the discussion, where methodological challenges, the context of the research and lessons for planning practice are presented, ending with recommendations for further research into studentification.

2. A theoretical framework on student complexes and community cohesion

Studentification and rise of PBSAs

Sage et al. (2012) describes the attention of studentification as a social issue arose in the early-2000s. Students were moving in to established neighbourhoods, living in HMOs (converted family homes into student housing) and changing the neighbourhood resulted in unsatisfaction among residents. This phenomenon is also described as studentification, widely researched in Britain (Sage et al., 2012; 2013; Hubbard, 2008; 2009, and Smith, 2008). Studentification is defined by Sage et al. (2012) (p. 597) as;

"to describe the impacts of relatively high numbers of university students migrating into established residential neighbourhoods – a process that triggers a gamut of distinct social, economic, cultural and physical transformations."

To combat studentification and prevent the domination of HMO, PSBAs have become the 'backbone' of many local authority policies as a way of to mitigate and disperse effects and reintroduce social diversity as stated by Sage et al. (2013). Smith (2008) describes it as 'the second-wave of studentification' with completely different residential patterns among students and a new role for commercial housing providers. Common key characteristics of PSBAs as explained by Hubbard (2009, p 1907) are:
- Communal kitchens
- En suite bathrooms
- Swipe access cards and on-site security
- Bicycle sheds, laundry on site, sometimes even parking.
- Cafes, gyms sometimes even swimming pools
- All-inclusive rents including insurance.

Sage et al. (2013) also see the appealing '24-hour metropolitan lifestyle' which PBSAs cater including welcome packages and hospitality managers. The high-quality accommodation and security also attract parents and international students, as they deem it a safe and protected environment. Kinton et al. (2018) see that these PBSAs are increasingly being developed, managed and maintained by increasingly powerful commercial organisations.

With the placement of PBSA different stakeholders are involved, such as universities trying to disperse students and commercial providers trying to find the most attractive location with good facilities and a decent proximity to the university and city centre (Sage et al., 2013). Commercial providers such as Xior, actively advertise their PBSAs throughout the Netherlands. Student real estate brings along a great opportunity for profit as rent prices are often driven up right around the rent allowance maximum (Breij & Slager, 2018). Rooms at Xior go for 875 euros per month, even exceeding this allowance limit, however, students are still eager to pay the monthly rent (van den Eerenbeemt, 2019). The internationalisation of higher education has also contributed to the rise in PBSAs. Besides the high-quality living, international students are steered in that direction by commercial agents and the universities (Kinton, et al., 2018). In addition, international students often have no other choice but to live in expensive PBSAs, as they are often refused in HMO houses on the basis of being international (Erasmus Student Netwerk, 2019; Van den Berg, 2018). From a broader perspective Kinton et al. (2018) sees that students in general see a degree more as a private investment rather than a public good. Students have become consumers and are willing to spend more on housing and education. This attracts more students to PBSAs with luxury features and more privacy.

The willingness of students to pay such monthly rents (both national and international), the increasing role of private parties on the student housing market, and the active policies of governments have all contributed to the rise in PBSAs throughout Europe.

Community cohesion and discourses of dispossession in the context of studentification
Traditionally, students were associated with being gentrifiers of neighbourhoods, as their arrival in HMOs was associated with a 'highly ambivalent' place in social and spatial hierarchies. Students are seen as culturally expressive and the increasing house prices in neighbourhoods resulted in social and physical uplift (Hubbard, 2008; Hubbard, 2009). Smith (2008) argues that the lack of housing regulation policies (e.g. a max. percentage of houses being destined for student housing) with regards to HMOs and studentification causes unbalanced populations and lack of community cohesion. This causes communities to experience negative effects of gentrification caused by studentification in the neighbourhood. Where HMO housing was initially seen as a positive change for neighbourhoods, the effects studentification have consequently shifted the view of developers towards the development of PBSAs. As Smith (2008) (p. 2546) describes;

'Studentification reduces the opportunities for positive and mutually beneficial interactions between groups and fuels the segregation of groups based on lifestyle and life-course cleavages, as well as differing levels of economic capital'.

Developing PBSAs are still seen as attractive options for policy makers to reduce pressure on studentified residential neighbourhoods. However, when PBSAs are built in existing communities, expression of studentification can be enhanced (Hubbard, 2009; Sage et al. 2013). Kinton et al. (2018) mention that studentification by commercially built PBSAs bring major process of contemporary urban change which reshape urban geographies. Studenthood itself is being gentrified according to Kinton et al. (2018), bringing changes to the neighbourhood and community cohesion within these areas.
Sage et al. (2013) identifies that with the arrival of PBSA in neighbourhoods, a 'campus identity' arises onto the local area and causes 'discourses of dispossession' among non-student residents in established neighbourhoods. These residents experience a feeling of loss of ownership and often withdraw from the streets as events such as on-street disturbances, noise nuisances change the rhythm of the neighbourhood. Non-student residents in Sage's (2013) case study felt that since PSBA has been built in their area, the neighbourhood was less theirs.
Important to note is the proximity in which residents live to a PBSA matters. In Sage et al. (2013), litter, parking and noise nuisance are among the most named issues of PBSA. The article states (p. 2633):

'Experiences suggest that the PBSA is producing more volatile student/community relations in its immediate vicinity.'

This suggests that non-student residents living in proximity of a PBSA experience more effects of studentification and reduced community cohesion. Where specific distances have not described, Sage et al. (2013) used focus groups and questionnaires throughout a British neighbourhood to research the impact of PBSAs, which have shown that throughout the neighbourhood, the effects of PBSAs are felt.

Expression of studentification and their influence on cohesive communities.
Where the above-mentioned theories explain how studentification and PBSAs decrease community cohesion, it is important to consider how cohesive communities are formed. Forrest & Kearns (2001) describe five domains of 'social cohesion', linked to studentification by Fabula et al. (2017). Table 2 provides an overview of these domains and their link to studentification, among which the lack of place attachment and the different values and lifestyles of students are seen as points of annoyance for established residents causing decreased community cohesion.

Table 2: The five domains of social cohesion, taken over from Forrest & Kearns (2017, p. 2129) and Fabula et al. (2017)

Domain	Description	Influence of studentification
Common values and a civic culture	Common aims and objectives; common moral principles and codes of behaviour; support for political institutions and participation in politics.	Different values and lifestyles between students and established residents.
Social order and social control	Absence of general conflict and threats to the existing order; absence of incivility; effective informal social control; tolerance; respect for difference; intergroup co-operation	Moral codes between the two parties differ. Nuisance by students feels as if the social order is disrupted.
Social solidarity and reductions in wealth disparities	Harmonious economic and social development and common standards; redistribution of public finances and of opportunities; equal access to services and welfare benefits; ready acknowledgement of social obligations and willingness to assist others.	In-migration of students can create patterns of segregation by lifestyle or age. In addition, services can change and cater to a different group of residents.
Social networks and social capital	High degree of social interaction within communities and families; civic engagement and associational activity; easy resolution of collective action problems.	Students can contribute to the livelihood of the neighbourhood because of their free time, but their social networks are not aimed at integrating the established residents. Students are only limitedly interested in social interactions with the neighbourhood.
Place attachment and identity	Strong attachment to place; intertwining of personal and place identity.	As student households have temporal characters, place attachments and identity among students in a neighbourhood is often low

Conceptual model

PBSAs can lead to decreased sense of community cohesion as described by Sage et al. (2013). Discourses of dispossession such as lack of ownership, noise nuisance may result in a decreased sense of community cohesion among non-student residents. In addition, PBSA development in existing neighbourhoods do not mitigate effects of studentification, but enhances them, visualized in figure 2. (Sage et al., 2013). Studentification of neighbourhoods has its own consequences for neighbourhood cohesion such as enhanced segregation and reduced opportunities for 'positive and mutually beneficial interactions between groups' within the neighbourhood (Smith, 2008). This is represented by the indirect arrows connecting PBSAs to sense of community cohesion with studentification as indirect connector. Where PBSAs both directly and indirectly influence community cohesion, studentification is an important mediating concept linked to both PBSA and community cohesion, see the conceptual model in figure 2.
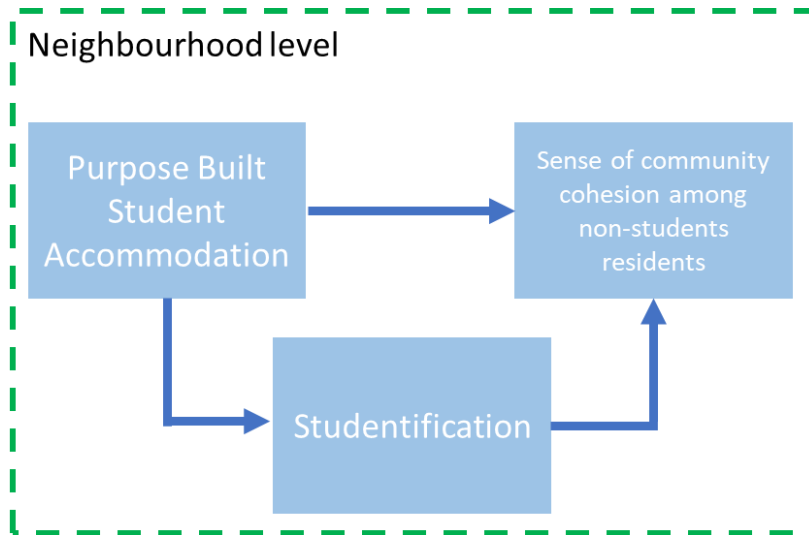
Figure 2: Conceptual model in support of the theoretical framework.

Hypothesis

Based on the theoretical framework and conceptual model described above, it is hypothesized that 'The closer non-student residents live near a PBSA complex, the lower their degree of community cohesion'. Different proximities are expected to experience different levels of studentification and community cohesion. Respondents living closer to PBSAs will most likely experience more nuisance and discourses of dispossessions such as loss of ownership than respondents living further away.

3. Methodology, a case study in Paddepoel

This methodology will focus on a single case study research approach, in the Paddepoel neighbourhood. The study has aimed to research the influence of PBSAs on community cohesion. The research area and proximity buffers will be explained, after which the GIS sampling strategy and the questionnaire design are demonstrated, gathering empirical quantitative data. The methodological approach elaborates on how each research question has been answered, what data is collected and how this has been analysed. This overview is presented in Appendix 1.

The case study area

This individual case has been chosen as four different PBSAs have been established in the neighbourhood in close proximity of each other and within a short time of period (Breij & Slager, 2018). This creates a unique and extreme situation, which can shed light on the influence of PBSAs on community cohesion. (Taylor, 2016). Where the first PBSA, 'Campus Zonnelaan' was finished in 2016, the research will focus on how non-student resident experience community cohesion in their neighbourhood now, in 2020. The research area is defined by four PBSAs located within the neighbourhood borders of Paddepoel as defined by the municipality of Groningen as can be seen in figure 3 (Gemeente Groningen, 2020).

Proximity buffers

Deriving from the literature, living in closer proximity to a PBSA is known to decrease the sense of community cohesion among residents (Sage et al, 2013; Hubbard, 2009), but exact measurements to those proximities are not given. A maximum proximity of 300m (figure 3) has been applied to this study as it covers a large area of Paddepoel without largely overlapping with other neighbourhoods, whom might not identify themselves as residents of Paddepoel, and therefore cannot provide the research with useful information about community cohesion in Paddepoel. To inquire about the difference between PBSA proximities and the relations to social cohesion, a choice has been made to create three equally wide proximity zones (100m in this case) for comparison between equal distances, as can be seen in figure 3.
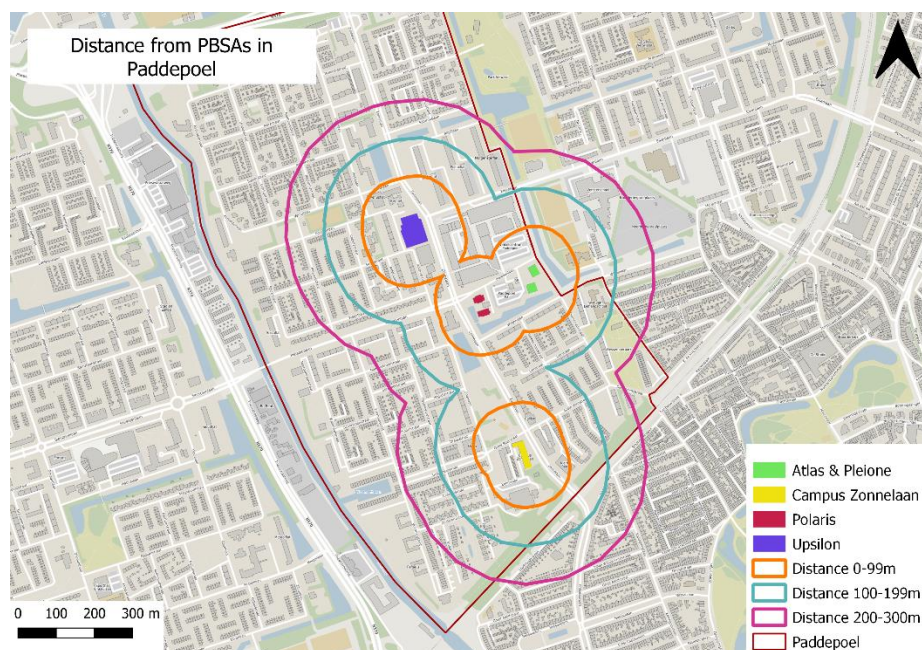
Figure 3: Overview of PBSAs in Paddepoel with the neighbourhood border and proximity buffers.

An overview per proximity buffer and its unique characteristics can be found in Table 3. The first buffer includes the residencies in direct proximity of the PBSAs with direct views on the PBSAs. Verheyden

(2008) talks about a 'out-of-sight-out-of-mind' effect where residents experience less traffic nuisance if they do not see it. Taking this out-of-sight-out-of-mind principle, residents living in direct sight of a PBSA experience more noise nuisance, because of a psychological effect. (Verheyden, 2008). In the second buffer (100-200m), the changing rhythm of the neighbourhood, economic and social changes will still be experienced in streets close to PBSAs. Physical effects such as pollution, litter and rubbish, and cultural effects such as antisocial behaviour, incompatibility of lifestyles and noise nuisance as described by Smith & Holt (2007) are to be expected in streets surrounding PBSAs. Sage et al. (2013) describes litter, parking issues and street disturbances are among the issues to be expected throughout the entire neighbourhood. The third buffer has a 200-300m distance from the PBSA. It is to be expected that these residents experience some/little nuisance to no nuisance of the studentification as a consequence of PBSA. Many roads and houses shield them from the PBSA, some minor consequences such as parking disturbances or the occasional noise nuisance can be expected. Here, the indirect effects of gentrification and segregation (Smith, 2008) plus social and economic effects such as changing demographic structures of the neighbourhood can be experienced. The changing neighbourhood functions and changing demand and supply of housing (Smith and Holt, 2007) but there are not direct cultural or physical impacts.

Table 3: Overview per buffer and the unique characteristics per buffer.

Buffer	Characteristics
0-100m	Direct sight on PBSA, most prominent nuisance, such as noise, parking and litter as the buildings are (almost always) in direct sight of the PBSA.
100-200m	Not direct sight of PBSA, but still experiencing physical and cultural effects of studentification and PBSAs as described by Smith & Holt (2007)
200-300m	PBSA has limited direct impact such as noise or litter nuisance. Residents might notice a segregation or gentrification of their neighbourhood as a consequence of social and economic effects described by Smith & Holt (2007).

Questionnaire design

Survey research has proven to be very useful for researching people's attitudes and opinion on social issues (McLafferty, 2016). It has also been determined to be valuable for finding complex behaviours and social interactions (McLafferty, 2016). Community cohesion relies on complex behaviours and social norms and values of residents. This includes inquiring about personal attitudes and opinions from non-student residents in the neighbourhood as sharing social norms, values and networks is important for community cohesion (Fabula et al., 2017).

Qualtrics has been used to administer the online survey and the language of the survey has been administered in Dutch as the survey has to be suited for the local population, of which the majority of the neighbourhood is 'Dutch' (Gemeente Groningen, 2020). A combination of multiple-choice, multiple-answer, slide bars, and matrix questions has been used.

Three themes have formed the basis for the survey design, an introductory theme 'Thuis en de buurt/home and neighbourhood', the second theme inquiring about the experienced community cohesion in the neighbourhood, 'sociale cohesie/community cohesion', and the third theme focussing on the effects of students, 'Studenten in de wijk/Students in the neighbourhood'.

In the questionnaire, the domains of social cohesion by Fabula et al. (2017) are included. The third domain, social solidarity and wealth disparities has not been considered in this research as this study does not inquire about personal finances and the distribution of public funds. By inquiring respondents about the other four domains; common values and civic culture, social networks and social capital, social order and social control, place attachment and identity, it becomes possible to identify whether there are elements in the neighbourhood present for community cohesion with relation to studentification and PBSAs. In appendix 3 a full overview of the theory relating to the questionnaire can be found, which explicitly relates to each individual domain. In appendix 4, per theme of the

survey, a table gives an overview of the questions per theme, measurement levels, answer options and aim of the question. Before gathering responses, the survey has been tested by two individuals outside of the research after which minor adaptations have been made.

Recruiting participants

Via letterbox invites

To recruit participants, small invites have been spread throughout the neighbourhood with a short introduction to the research, a QR code and link to the website. These invites have been put in people's letterbox. Since this approach has been taken, non-residents such as visitors will most likely be excluded as they do not hold a letterbox.

To ensure that everyone in the population has equal chance of being part of the sample frame (the individuals who have a chance of participating in the survey), a random selection will be done via a GIS analysis (McLafferty, 2016). The sample frame has been a subset of the population.

The random GIS selection is based on the BAG register data, first selecting all buildings with residential purpose and buildings with multiple purposes in the three buffers (e.g. residential and shop) as can be seen in figure 4.
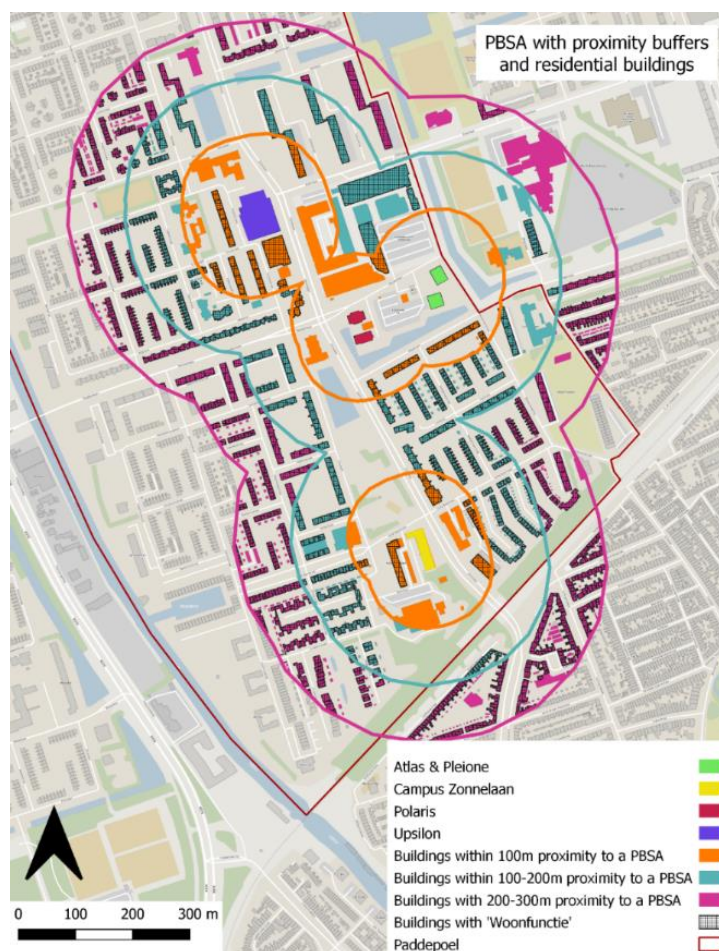
Figure 4: Paddepoel with proximity buffers around the PBSAs and buildings coloured accordingly. Buildings with a residential function (NL: woonfunctie) are checker pattern. (PDOK, 2020).

After the residential function selection, per buffer, a random selection has been executed, visible in figure 5, of which the total number of selected buildings can be found in table 4 (PDOK, 2020). In Appendix 2, the extensive GIS analysis can be found.

Table 4: Randomly selected buildings using GIS 'random selection' tool in percentages and the absolute number of residential buildings selected as a consequence.

Proximity to PBSA	Percentage of buildings randomly selected	Absolute number of randomly selected residential buildings	Excluded buildings after 2nd random selection[1]
Within 100m	75%	64	5
Within 100-200m	20%	91	4
Within 200-300m	10%	63	18
Total	16% (of all 'woonfunctie' buildings)	218	29
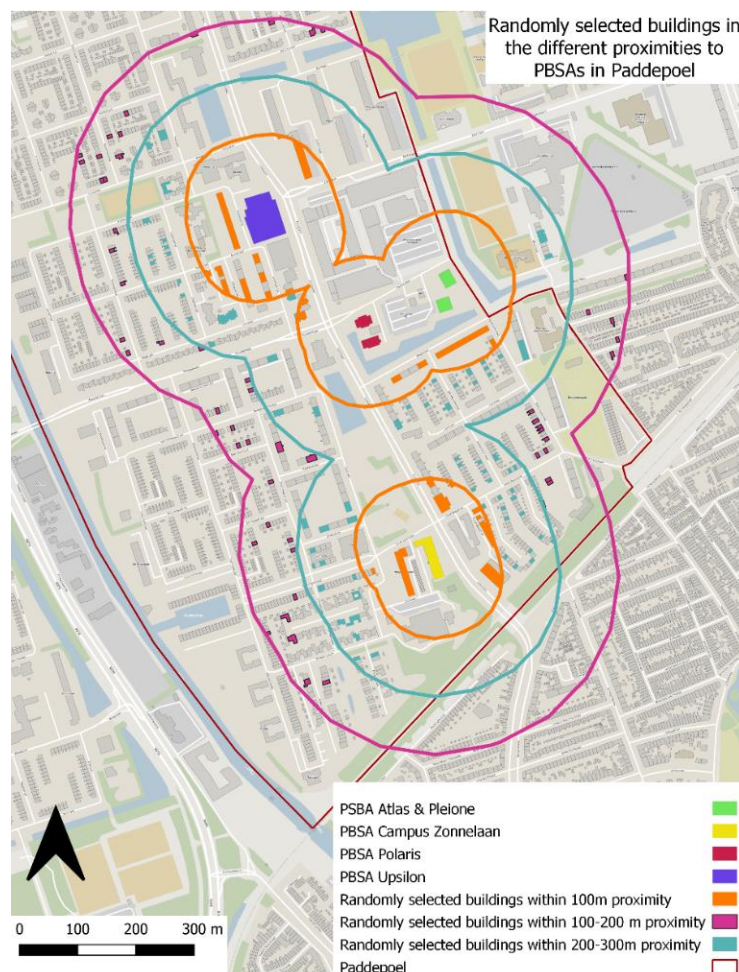
Figure 5: Randomly selected residential buildings in Paddepoel, which will receive a survey invite. Based on data from PDOK, (2020)

Via online platforms (Facebook and neighbourhood initiatives)
Secondly, spreading invites throughout neighbourhoods is known to get low response rates. Via email and Facebook messenger, neighbourhood initiatives have been reached out to, to ask whether the survey invite could be spread via their online platform.

Data analysis

The aim of the data analysis of this research has been to describe the data via descriptive statistics and examine possible correlations and differences between the different proximity buffers through

statistical tests. This data analysis is visualized in figure 6. The response to the question: 'in welk gebied woont u? /In which area do you live?' will be added manually into SPSS, creating four groups (A 300+ option as well) of buffers. This latest buffer is added as certain respondents live outside of this 300m proximity, however, their views on community cohesion and studentification can still be relevant.

As statistical tests, the Kruskal-Wallis test (KW-test) and Spearman's Rho correlation have been chosen for this research. The KW-test has been deemed suitable as each buffer would be considered 'its own' group, entailing that different values of one variable form individual groups, allowing to test the differences per buffer.

The Spearman's Rho test examines the correlation/relationship between two variables. In this research, the buffer variable has been compared to another ordinal variable. Both are relevant as the KW-test shows the distributions in the different groups (buffers), and whether there is a difference. The Spearman's Rho test shows the correlation or relationship between two variables and whether this is positive/negative and the strength of this relationship. The descriptive statistics are based on respondents in all four buffer categories, all statistical tests are run twice, for both 3 buffers (0-100m, 100-200m, 200-300m) and for 4 buffers (including a 300+m category).
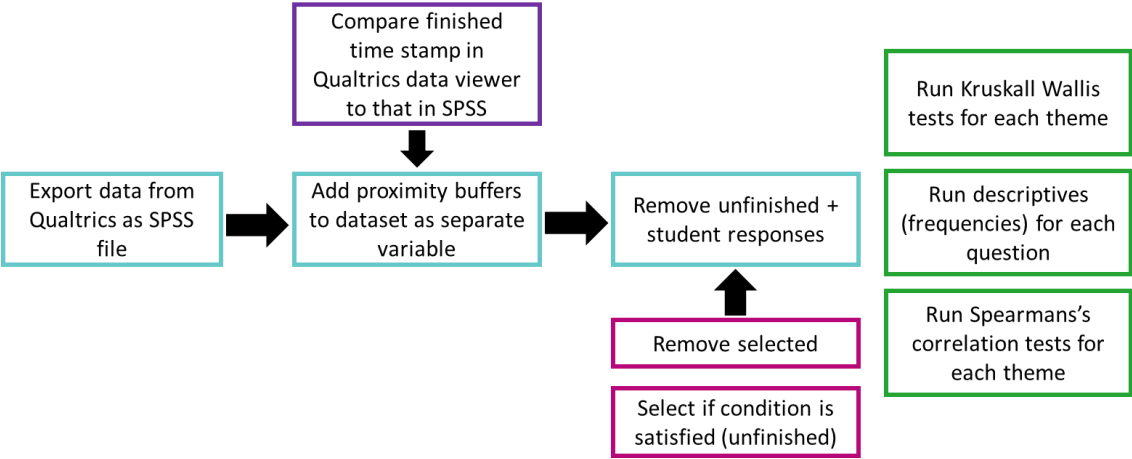
Figure 6: Data analysis visualized in a flow chart.

Schematic overview of the research

In figure 7, an overview of the research design is visualized as discussed in the methodology. It shows the link between literature's key concepts and the questionnaire's structure in the larger context of the overarching research questions.

Main research question: how does living in proximity to a PBSA complex influence community cohesion among non-student residents in Paddepoel?

Empirical sub-questions
How do non-student residents in Paddepoel experience community cohesion?
How do non-student residents in Paddepoel experience the presence of PBSAs in their neighbourhood?

Using BAG data, CBS (wijkgegevens) and adding PBSAs as polygons

GIS for proximity buffers and random sampling strategy

Theoretical sub-questions
What has caused a rise in Purpose Built Student Accommodation?
How does studentification of neighbourhoods influence community cohesion?

Questionnaire

Theme 1   Theme 2   Theme 3

Literature analysis

Add Proximity buffers manually in SPSS, 0-100m, 100-200m, 200-300m, 300m+

Key concepts, relationships and findings

Exclude student respondents and unfinished surveys.

Analysis per proximity buffer in Excel and SPSS

Comparison of proximity buffer populations using Kruskall-Wallis & Spearman's Rho test in SPSS

Drawing conclusions about community cohesion in Paddepoel and the Impact of PBSAs

Bringing together conclusions from literature and empirical research

Answering main research question: how does living in proximity to a PBSA complex influence community cohesion among non-student residents in Paddepoel?

Figure 7: Summary of research design

Ethical consideration

As there is no to little interaction between the survey respondent and researcher power relations in the research are not at play. With the distribution of surveys, respondents always choose themselves to fill out the questionnaire. On the other hand, the individuals who do choose to respond, could give a distorted picture of reality as the individuals responding could hold very positive or negative opinions which they are more inclined to share. Therefore, residents whom are not bothered or feel indifferent by PBSAs could be left out of this research as they do not choose to participate, resulting in a sampling bias and therefore not truly reflecting the larger population.

This research can strengthen social stereotypes, such as a few examples mentioned by Hubbard (2008) of students being uninterested in contributing to the local community life and exclude themselves from mainstream spaces of leisure and nightlife. On the other hand, it can be stereotype breaking, as non-student residents can have different perspectives then what might be assumed in literature.

When it comes to privacy, while it is important to know the proximity of the respondent to the PBSA, it cannot compromise his or her location, as the Hotspot function does not create extractable geographical data. Immediately, any personal identifiers in the dataset have been removed.

4. Results, experience of community cohesion in Paddepoel

In this section, the outcomes of the questionnaire will be discussed according to their corresponding theme. Appendixes 5, 6 and 7 each focus on one of the themes of the questionnaire. Theme 1 will focus on the general information about the dataset, theme 2 will focus on how community cohesion in Paddepoel is experienced, and theme 3 will link community cohesion to studentification and PBSAs.

General
63 responses were recorded during the collection period of this survey. 11 cases were unfinished, to such an extent that their data would not contribute significantly and were therefore removed. Furthermore, 9 cases were recorded as 'student households' and were also removed, as the research looks into the influence of PBSAs on community cohesion among non-student residents. This leaves 43 valid cases.

Theme 1: Home and in the neighbourhood

The section has gathered general data (e.g. age, household structure) and asking about comfort in home and neighbourhood. Appendix 5 provides an overview of all the results.

Figure 8 shows the general information about the dataset. 30% of the respondents has been living in Paddepoel for ten to twenty years, forming the largest group of the dataset. In general, many long-term residents have respondents, with 62% of respondents living in the neighbourhood over five years. Many of the respondents either consider themselves to be in a 'one-person household' or a 'family household'.
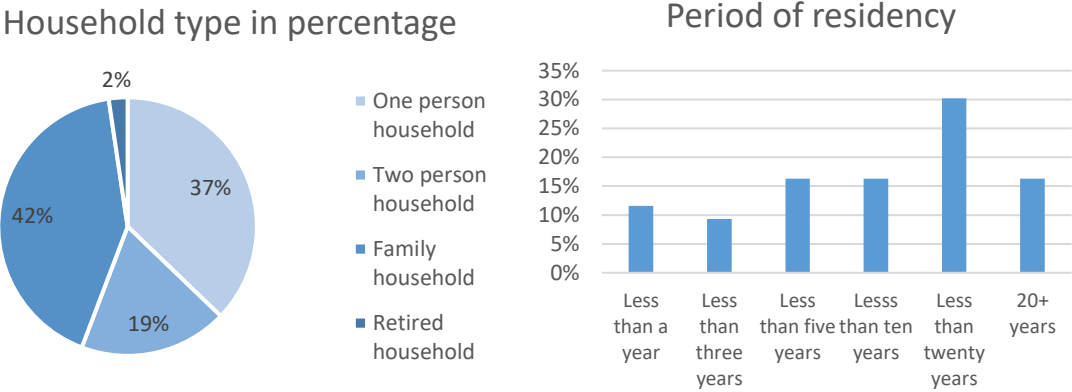
Figure 8: Circle diagram of household type and period of residency among respondents, n=43

On the hotspot map of figure 9, it becomes visible that the locations of respondents are quite varied throughout the neighbourhood, with responses throughout all the buffers. There are two clear cluster points, near the Wilgenpad and the Grote Beerstraat/Zonnelaan, highlighted with a black circle.
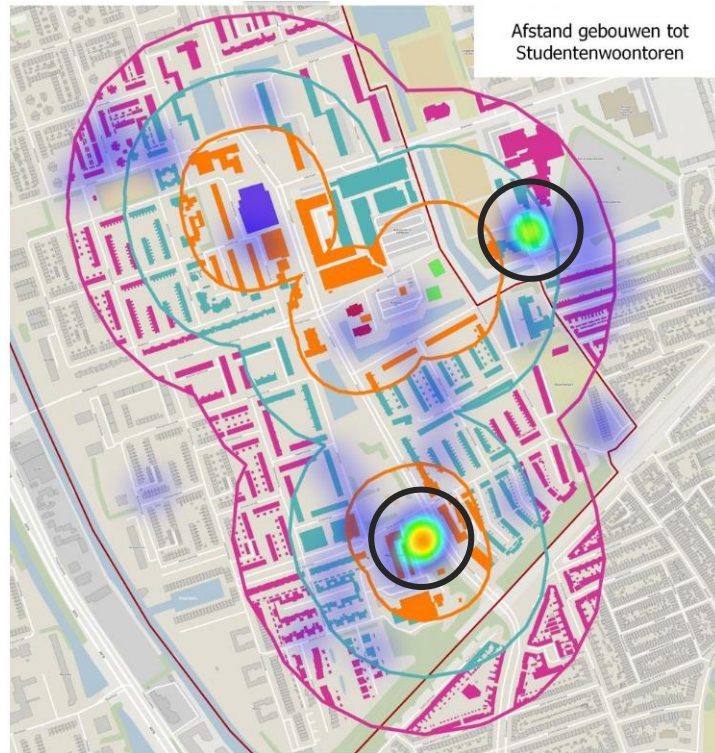
Figure 9: Location of survey respondents as indicated by respondents themselves, shown in a Hotspot map taken from Qualtrics, n=42 (1 respondent had an invalid selection), (PDOK, 2020)

Regarding the question whether residents feel 'at home in Paddepoel' (Q5), respondents gave a 3.7/5 rating on average with 5 being 'feeling very at home in the neighbourhood', indicating that the majority of respondents feels quite at home in the neighbourhood. In addition, 67% of respondents argued Paddepoel was nice/comfortable place to live as can be seen in figure 10. Contrastingly enough, 63% of respondents said they were not attached to the neighbourhood.
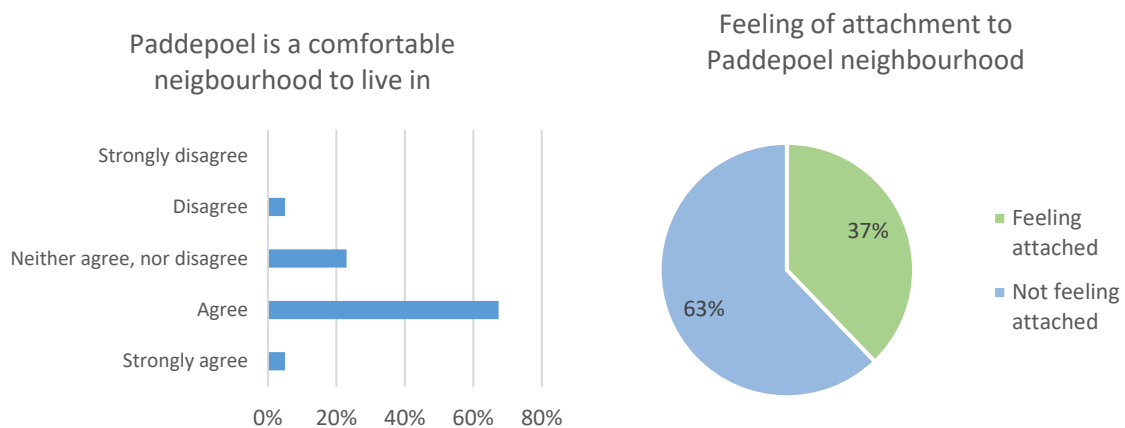
Figure 10: Responses to question 4, comfortability in the neighbourhood (L) and 6, feeling of attachment (R), n=43

Differences between proximity buffers in theme 1

In general, residents find Paddepoel to be quite a comfortable place to live, but would not consider themselves to be attached to this neighbourhood. As the KW-tests has shown, this is similar throughout all of the buffers, with similar distributions per buffer (appendix 5). The questions concerning 'comfortability in the neighbourhood' and 'at home feeling' (Q4 and Q5) show that there is no statistically proven correlation between 'comfortability in the neighbourhood', 'at home feeling' and the distance to PBSAs (Spearman's rho test, appendix 5). Living further away from a PBSA therefore does not increase of decrease respondent's comfortability level in the neighbourhood or at home feeling.

Theme 2: Community cohesion

The theme community cohesion focusses on how community cohesion is experienced in the neighbourhood such as contact with neighbours and nuisance. The detailed result can be found in appendix 6.

In Paddepoel, more than half of respondents stated to experience only nuisance a few times a year, as can be seen in figure 11. Only a cumulative 20,9% experiences nuisance regularly being weekly or daily. On the other hand, a cumulative 37% of respondents stated they would not approach their neighbours in case of nuisance (figure 11), and 26% of respondents said they accepted a lot of nuisance of their neighbours.
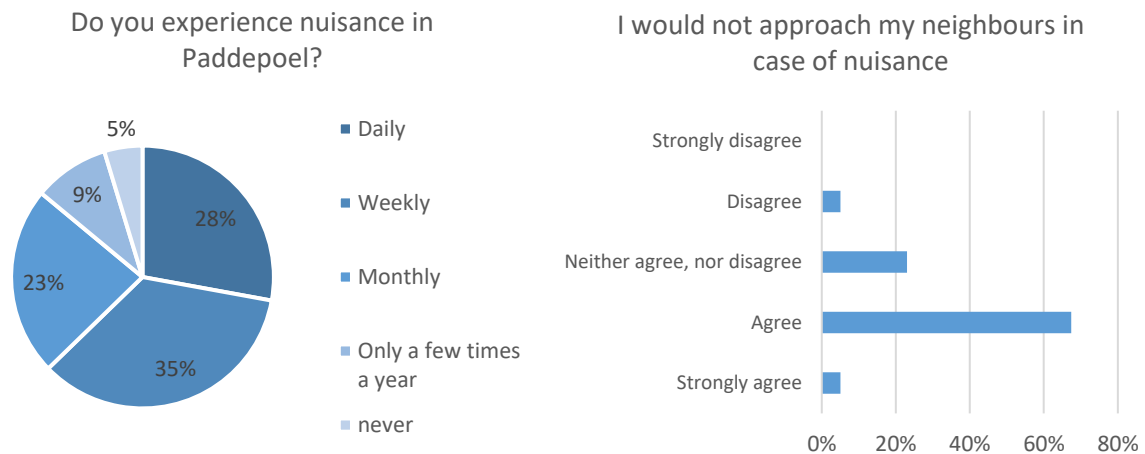
Figure 11: Nuisance frequency as experienced by residents (L, Q10) and whether respondents would approach their neighbours in case of nuisance (R, Q11), n=43

When respondents were asked about whether the same values were shared within the neighbourhood, the largest group of respondents (44%) stated they (strongly) disagreed, as can be seen in figure 12. Interestingly enough, 62,8% of respondents stated to speak to their neighbours frequently (being weekly or daily).
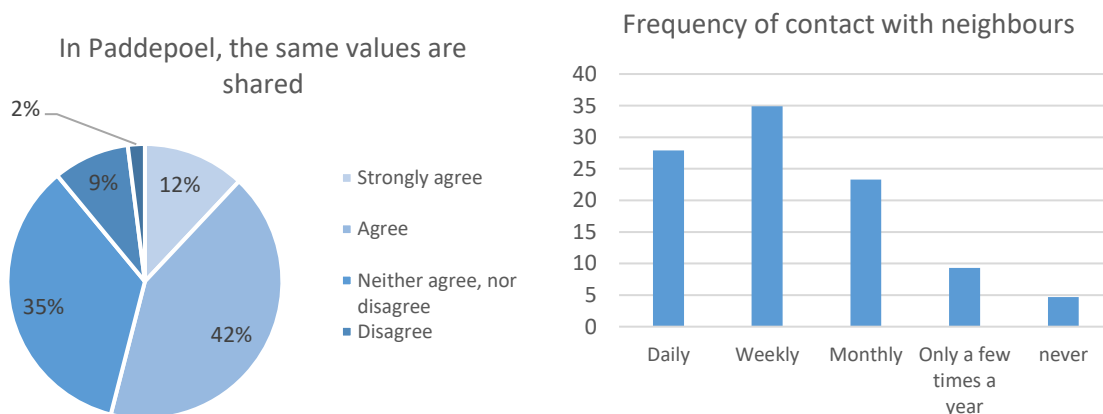
Figure 12: Responses to the questions whether values are shared within the neighbourhood (L, Q7) and the frequency at which respondents have contact with their neighbours (R, Q8). n=43

To the question: 'Do you feel part of the local neighbourhood community?', the responses were almost equally divided, as can be seen in figure 13. Thus, while one part of the dataset feels part of the neighbourhood community, a similar sized group does not. Therefore, a clear conclusion cannot be made.

Feeling part of the neighbourhood community

- Completely part of the community
- Relatively part of the neighbourhood community
- Not part of the community
- Totally not a part of the community
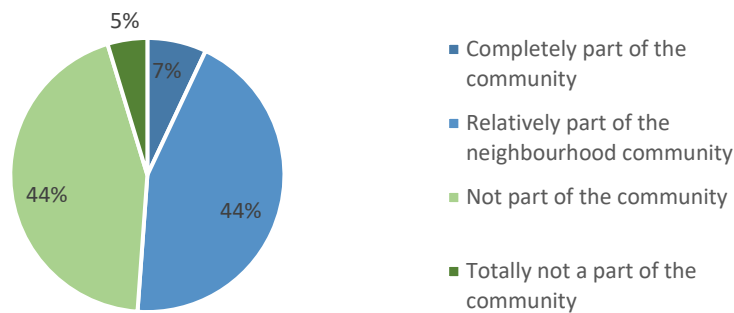
Figure 13: Response to feeling part of the neighbourhood community (Q8), n=43

Differences between proximity buffers in theme 2

For the second theme, no significant correlations between the questions and the buffer zones could be found, as can be seen in appendix 6. Interestingly, the statement 'The same values are shared in the neighbourhood' (Q7), did result in a significant KW-test (app. 6, p. xv). Therefore, the distributions for the statement are different per buffer. This is similar for the statement 'I do not approach my neighbours in case of nuisance' (Q11, app. 6, p. xvii) which also had different distributions for each buffer group, which indicates that between the buffer groups, respondents feel differently towards approaching their neighbours in case of nuisance and whether neighbours share the same values. It also shows that the median per buffer group is significantly different.

With regards to the questions inquiring about the frequency of contact with their neighbours and feeling part of the neighbourhood community, there also were no differences per proximity buffer, meaning that throughout the different buffers, the difference in contact is not large enough to be significant.

Looking more in depth into question 7, respondents were asked to (strongly) agree or disagree with the following statements;
-    In the neighbourhood we care for each other
-    In the neighbourhood, the same values are shared.
-    This is an involved neighbourhood to live in

Where there has not been found a significant relationship between the responses to these statements and the buffers zones, meaning that being further away from a PBSA, does not increase the feeling of shared values or living in an involved neighbourhood. However, a significant positive correlation that has been found between the three statements indicating that when respondents feel as if more values are shared in the neighbourhood, they also feel the neighbourhood is more involved.

Reflection of results themes 1 and 2

This section looks at first two themes exploring community cohesion in Paddepoel, linking to four domains of Fabula et al. (2017) as can be seen in table 5. These themes have aimed to answer the first sub-question 'How do non-student residents in Paddepoel experience community cohesion? The results however, are found to be inconclusive.

Where most residents feel comfortable in Paddepoel and at home in the neighbourhood (average ranking 3.7/5), they are also not attached to the neighbourhood, 63%. In addition, where respondents speak to their neighbours often, many feel as if the neighbourhood does not share the same values and showed that per buffer, the response distributions differ. Especially when asked whether respondents felt part of the neighbourhood community, the results were inconclusive. These are key values for a cohesive community according to Fabula et al. (2017), leaving somewhat inconclusive results. Table 5 shows an overview of the responses to the questions per domain.

Table 5: Results of theme 1 and 2 in the survey in relation to the domains described by Fabula et al. (2017), n=43

Domains for social cohesion by Fabula et al. (2017)	Questions in Survey	Reponses
Common values and a civic culture	Sharing values in neighbourhood (Q7)	42% does not feel residents share same values. Response distributions to this question were different per buffer.
	Comfort level in neighbourhood (Q6)	67% feel Paddepoel is a comfortable/nice place to live in.
Social order and social control	Experienced nuisance (Q10)	Many respondents rarely experience nuisance (51% only a few times per year).
	Approaching neighbours about nuisance (Q11)	30% would not reach out to neighbours in case of nuisance. The response distributions to this question were different per buffer.
Social networks and social capital	Frequency of talking to neighbours (Q8)	63% talks to neighbours regularly (daily or weekly).
	Feeling part of neighbourhood community (Q9)	Equal percentages feel part and not part of neighbourhood community (44%).
Place attachment and identity	Residency period (Q2)	Many long-term residents responded see appendix 4.
	Place attachment (Q4)	Low place attachment, 63% not attached to the neighbourhood.
	At home feeling in the neighbourhood (Q5)	Rated a 3,7 out of 5, with 5 being the most positive.

Theme 3: Students in the neighbourhood

This theme connects community cohesion in Paddepoel to the effects of PBSAs. All the discussed results for theme 3 can be found in Appendix 7. This theme aimed to inquire about resident's experience with students such as nuisance caused by students, whether students make respondents feel less at home, among others and whether PBSAs have brought change to the neighbourhood.

The results in figure 14 suggest generally an indifference on whether students and non-students share the same values. Of the respondents, 42% (strongly) agree with the statement that students and non-student residents do not share the same values, however 35% feel indifferent. Moreover, whether PBSAs cause segregation in the neighbourhood is doubtful, since the result do not show a clear answer. The largest group, 39% (strongly) disagreed with it.
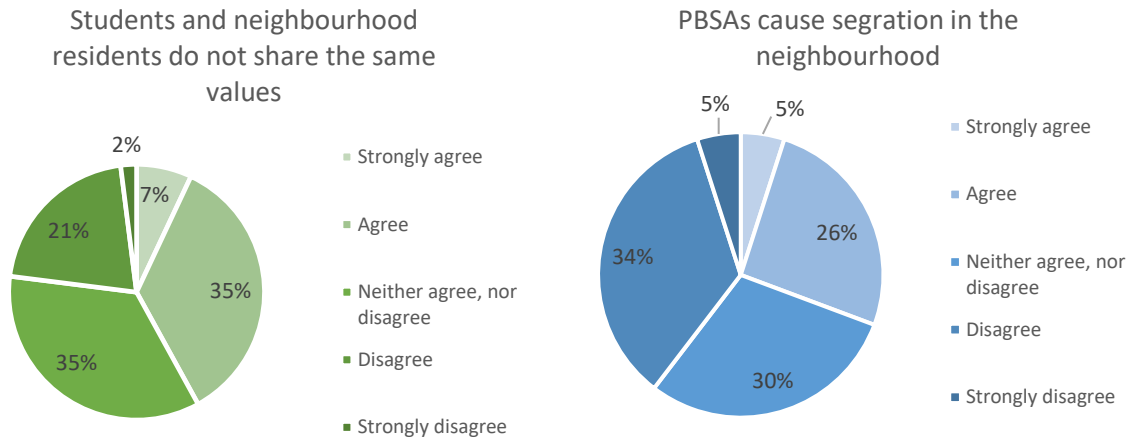
Figure 14: Responses to Q15 (sharing the same values, L) and Q17 (whether PBSAs cause segregation, R), n=43

During the inquiry about experienced nuisance caused by students, 37% of respondents said they did not experience nuisance. Of the people whom did experience nuisance, the most selected form of nuisance (here, multiple answers were allowed) experienced is noise nuisance, which was selected by 35% of the respondents, followed by nuisance caused by littering, namely 30%.

When specifically asked about PBSAs, an accumulative 57% of respondents did not feel as if PBSAs cause nuisance for the neighbourhood as can be seen in figure 15. On top of that, 63% of respondents (strongly) agrees with the statement that students contribute to the livelihood of the neighbourhood (figure 15), therefore showing the positive effects students can have on a neighbourhood.
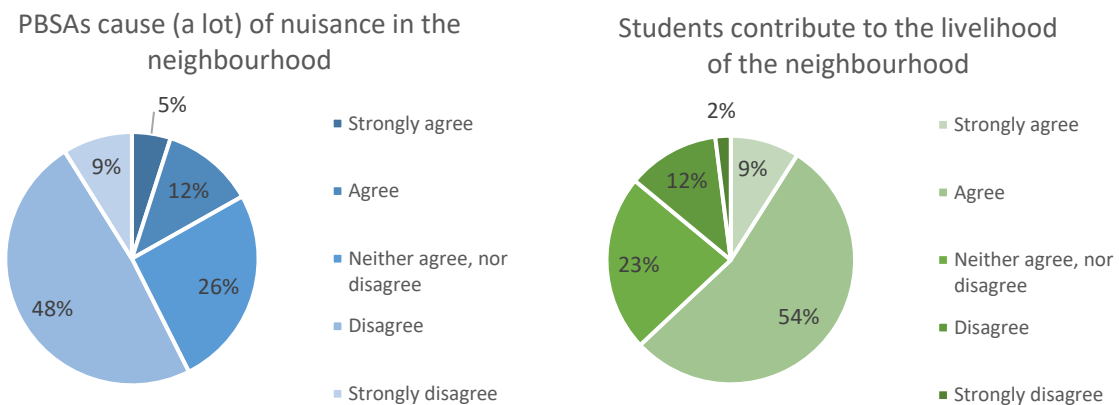
Figure 15: Responses to two statements out of the questionnaire, both from question 12, n=43

Interestingly, the majority of 75% (strongly) disagreed with the statement that PBSAs made them feel less at home, as can be seen in figure 16. Besides many respondents not feeling a decrease in 'at home feeling in the neighbourhood', 49% of respondents also did not agree with the statement that PBSAs had contributed to a decrease in community cohesion (figure 16). 16% (strongly) agreed with this statement, showing there is an only small group of the respondents who see a negative impact of PBSAs on community cohesion, but the largest group of respondents does not.
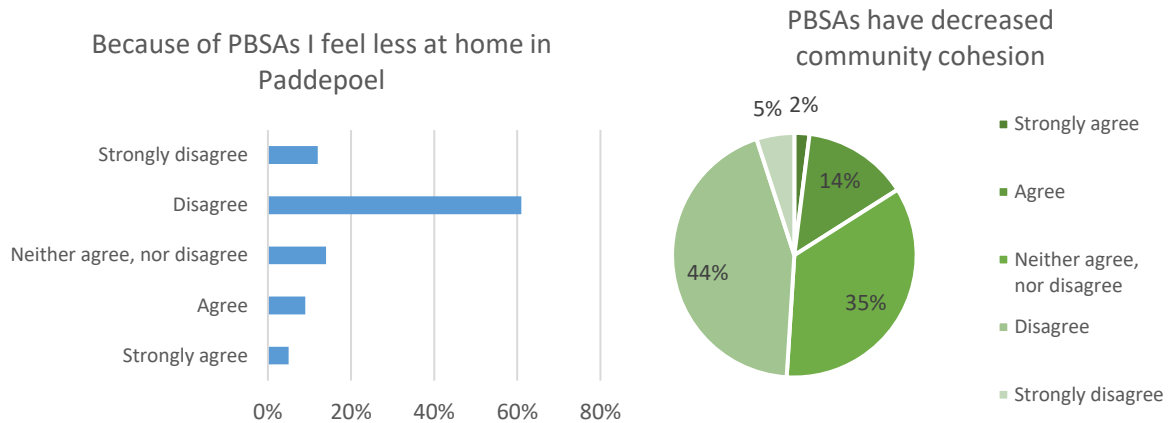
Figure 16: Results of two statement from the end of the questionnaire visualized in a pie and bar chart (Q16 left, Q18 right), n=43

Overall, a large group of the respondents feels indifferent about the effects of PBSAs. However, over 60% of respondents do not feel less at home in their neighbourhood because of PBSAs and more than half of the respondents does not feel PBSAs cause nuisance in the neighbourhood.

Differences between proximity buffers in theme 3
For theme 3, no significant correlations between the buffer groups and the questions could be found (Spearman's rho test, app. 7). Thus, the results thus indicate that living nearer to a PBSA does not make residents respond differently to questions such as 'nuisance experienced by students', 'feeling less at home because of PBSAs' and 'students contribute to the livelihood of the neighbourhood'. There is no significant relationship between the different proximity buffers and any of the questions.
Additionally, the KW-test (app. 7) also resulted in non-significant tests for this theme. Thus, for all the question in this section, the responses per buffer are similarly distributed and there no difference between the medians of the groups based on the buffers in which respondents live.
The results for the statement 'PBSAs have decreased community cohesion in Paddepoel' (app. 7, p. xxx) have shown there is no perceived impact of students and PBSAs on social cohesion related to the proximity in which an individual lives, therefore rejecting the general hypothesis, which was; 'The closer non-student residents live near a PBSA complex, the lower their degree of community cohesion'.

Reflection of results theme 3
Looking at the third theme 'Students in the neighbourhood', the results are positive for the sub-question: 'How do non-student residents in Paddepoel experience the presence of students and PBSAs in their neighbourhood?'. Taking the same approach as for the previous themes, table 6 gives an overview of the results. It becomes clear that the respondents feel that students have a positive effect on the neighbourhood, such as increasing the livelihood of the neighbourhood (Q12). In addition, as 58% respondents (strongly) agreed that PBSAs cause relatively little nuisance. When residents experience nuisance by students, it mostly concerns noise or litter nuisance, but almost 40% does not experience nuisance by students at all. On top of that, respondents also do not feel as if the rising numbers of PBSAs have caused a decrease in them 'feeling at home in the neighbourhood'. None of these questions resulted in significant results when testing for correlations between the buffer variable and the question variables, meaning that throughout the neighbourhood the responses are similar, and there is no correlation between proximity to a PBSA and any of the questions giving different results.

Table 6: Results of theme 3 in the survey in relation to the domains described by Fabula et al. (2017), n=43

Domains for social cohesion by Fabula et al. (2017)	Questions in Survey	Reponses
Common values and a civic culture	Shared values between students and residents (Q15)	34,9% of respondents agree that values are different between students and residents.
	Segregation in neighbourhood by students (Q17)	An accumulative percentage of 40% (strongly) disagrees that students cause segregation. An accumulative 30% (strongly) agrees that students cause segregation.
Social order and social control	Nuisance by students (Q18)	Many respondents do not experience nuisance caused by students, 37%. Noise and litter nuisance are the most selected options of experienced nuisance.
	PBSAs cause nuisance in Paddepoel (Q12)	58% (strongly) disagrees with the statement that PBSAs cause nuisance in the neighbourhood.
Social networks and social capital	Students contribute to the livelihood in the Neighbourhood (Q12)	63% (strongly) agree that students contribute to livelihood of neighbourhood.
	PBSAs have improved the neighbourhood (Q12)	33% agrees with 'Paddepoel has improved with the rise in PBSAs', only 18,6% (strongly) disagrees, large group does not agree neither disagree.
Place attachment and identity	PBSAs have decreased at home feeling of respondens (Q16)	PBSAs have not decreased home feeling of residents, 61% agrees and 12% strongly agrees.

Correlations between themes and domains.

Integrating and cross-examining between different themes is important as there could be correlations between different themes leading to new insights about how the different domains of community cohesion influence each other in relation to PBSAs and students. All tests can be found at the end of Appendix 6.

One of the most interesting findings is that there is no significant correlation between 'feeling at home' and 'residency period' (Q2 & Q5). Thus, there is no link between living in a neighbourhood for longer and rating 'at home feeling' higher, which is often suggested in literature such as by Sage et al. (2013). In addition, a significant correlation between 'feeling at home' and 'PBSAs have decreased my at home feeling' could also not be found, meaning that in this population, there is no link between how respondents rated their 'at home feeling in the neighbourhood' and whether students increased or decreased this.

7. Conclusion

To answer the research question: '*How does living in proximity to a PBSA complex influence community cohesion among non-student residents in Paddepoel, Groningen?';* living in proximity of a PBSA does not negatively influence community cohesion in this researched population. As there has been no proven significant correlation between living in closer proximity of a PBSA and experiencing lower community cohesion in this population, the hypothesis is rejected.

There is not a significant difference in responses to the questions regarding the domains of social cohesion by Fabula et al. (2017) and the respondents' distance to the PBSAs. Respondents seem to experience certain aspects of community cohesion, but a large group misses key aspects such as place attachment and shared values. While the majority of the respondents could be considered long-term residents (residency period > five years), this did not result in significant correlation with 'home feeling', which meant that in this population, long term residency does not increase or decrease 'feeling at home in the neighbourhood'. This contradicts with literature such as Sage et al. (2013) and Fabula et al. (2017) whom emphasize that the temporary characters of student housing decrease community cohesion and that long-term residents have higher place attachment levels.

It is even more striking that this research has shown that respondents very limitedly experience negative effects of PBSAs and studentification while especially long-term residents often experience those effects more as described by Sage et al. (2013) and Fabula et al. (2017). The questionnaire has shown the positive effects of PBSAs experienced by this population, such as the positive contribution of students to the livelihood of the neighbourhood. Furthermore, the negative effects of PBSAs described in the literature such as loss of ownership and nuisance are not experienced by the majority of this population.

Where this research has been considered as a small and unique case study in a specific geographical context, and the results of one neighbourhood cannot be generalized to speak for city of Groningen or the Netherlands as a whole, this research has shown that the effects of studentification and PBSAs are not always deemed to be negative, as is often described in international literature.

8. Discussion & recommendations

In this section, three different points will be discussed, starting of with the methodological challenges, discussing lessons learned during data collection and data analysis. Furthermore, the context of the research will be discussed, after which possible lessons for planning practice will be explained. It will end with recommendations for further research.

Methodological challenges

Improvements to the survey

In hindsight, the language used in some of the questions can be seen as 'professional language' of the niche spatial planning and not fully reflect the general language used in the Paddepoel neighbourhood. The two individuals asked to review the survey were higher educated, which could have led to them understanding the survey better and not running into any problems. In doing the research again, words such as social cohesion (used in the final 'do you have any remarks?' (question 19) and segregation (in question 17: students cause segregation) should have been replaced with more common words or explained better.

A question inquiring about the frequency of nuisance caused by students, similarly to question 10, would have been able to provide additional insights in the frequency. This question was not added and during analysis, this question could be added next time.

If circumstances with covid-19 had been different, collecting a higher number of respondents by asking people at the local mall or the neighbourhood centres could have helped to get to a higher number of respondents. Initially, the chi-square test was one of the selected tests for this dataset. However, this test was not suitable for this sample size. Therefore, the Spearman's Rho test and Kruskal-Wallis test have been selecting as they are suitable for smaller datasets.

Remarks ending the questionnaire

Multiple remarks considered bicycle traffic nuisance caused by students. This aspect of traffic nuisance is not extensively discussed in international literature, although parking nuisance is mentioned. As the Netherlands has a unique position as bicycle country, this aspect of traffic nuisance has not really been considered in this research. In following research, the cycling behaviour of students and the nuisance as a consequence of that behaviour could be an interesting topic.

Data collection

During the data collection process, the need was felt to repeat the data collection process once more, as the first round did not result in a large enough number of surveys. During this round, the sampling strategy was adhered to less strictly, however, still surrounding the selected buildings. It has resulted in more participants but also in more student respondents.

Data analysis: student household or individual household?

As the buffers were added manually, it became visible that respondents living in Campus Zonnelaan responded as both 'student households' and 'one person households' as can be seen in figure 17. This has sparked the question, what makes someone identify as a one-person or student household? This potentially is an example of a grey area, where non-students still live in 'student targeting housing' such as PBSAs, but do not see themselves as a student anymore.
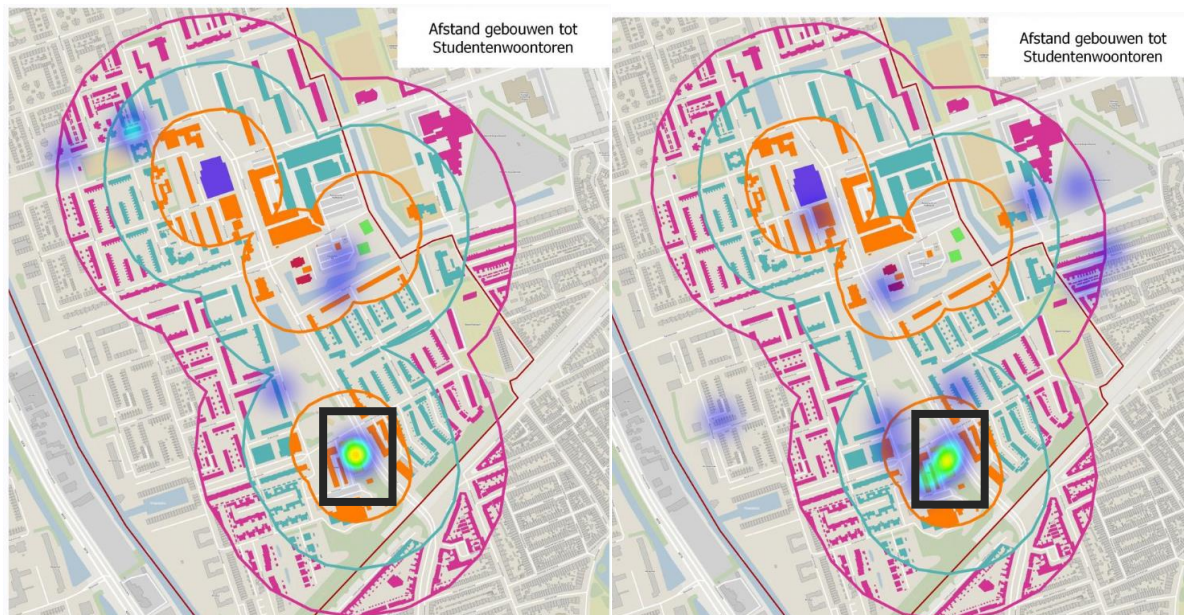
Figure 17: Hotspot map for 'Household=Student household' (L) and 'household=One-person Household (R) (PDOK 2020).

Context of the research

Nature of the study:

Where this study has researched the potential effects of PBSAs on community cohesion on a geographical and spatial level, using buffers, many of the PBSAs have been built in recent years, starting in 2016. The further establishment of PBSAs over time in the neighbourhood could continue to influence community cohesion within the neighbourhood. A follow-up study could allow for analysis over time, comparing results of the influence of PBSAs and studentification on community cohesion over a longer time period. In addition, including multiple methods such as a focus group or interviews could add new perspectives compared to a questionnaire as was done by Sage et al. (2013).

Where academic articles such as Sage et al (2012) and Smith (2008) describe the large shifts in student housing and the waves of studentification on town and neighbourhood levels, community cohesion as described by Fabula et al. (2017) happens on a small local scale. This research has aimed to study community cohesion on a neighbourhood level; however, this research scale might have been too large to study the actual real-time effects of studentification on street level. Studies similar to Rauws & Meelker (2019) examining one or a few streets allow for in-depth examinations of the direct influence on studentification on community cohesion. It also gives the opportunity to specific qualitative methods such as door-to-door interviews and observational studies. It can also more concretely propose interventions and solutions in planning practice for that specific location. Contradictory, this research approach is even more context-specified and therefore difficult to generalize.

International research of studentification.

In addition, many of the currently available literature with regards to studentification has been written with a United Kingdom focus, taking examples from British towns such as Sage et al. (2012) and Smith (2008). In the Netherlands, the prominent role of the municipalities in town planning and the traditional role of housing corporations are distinct differences from the UK. Furthermore, the 'on-campus living concept, where (first year) students live on a university campus, such as discussed by Sage et al. (2013) is not common in the Netherlands.

Lessons for planning practice and neighbourhood initiatives

The concentration of PBSAs in Paddepoel in this research has shown not to result in negative aspects of studentification and decreased community cohesion. However, internationally, the establishment of PBSAs in existing neighbourhoods have shown to result in negative neighbourhood environments.

The small scale and specific context of this study makes it difficult to generalize lessons for planning practice. With the development of large building projects such as PBSAs, it should always be a (semi) bottom-up process, where residents have the opportunity to either join focus groups or come to presentation evenings where different concepts are discussed. After the planning phase, the municipality should still actively seek to mitigate places of nuisance, and inform residents about the possibility to report nuisance among others.

For neighbourhood initiatives, such as the Wijs, street level scale interventions and activities could be developed, such as 'student & stadjer' Barbeques, neighbourhood parties, but also actively be a point for information. In addition, the neighbourhood initiatives can actively involve residents to take part in the city planning of their neighbourhood by posting and talking about neighbourhood developments and the possibility to have a say.

Recommendations for further research

In further research, when studying a similar neighbourhood scale, a larger sample size would be beneficial to receive more reliable results, with also the possibility to identify possible outliers. In doing so, the questionnaire could be adapted as described above. It is recommended to do a follow-up study to identify changes over time, as is the inclusion of qualitative methods such as focus groups. In addition, another key recommendation is studying different geographical scales such as street level or city level research. The impact of bicycle usage by students mentioned by multiple respondents is another form of student nuisance which could be studied further. In general, more research on the impacts of studentification and PSBAs in the Netherlands would positively contribute to the wider European and international discipline.

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Appendixes

Overview

Appendix 1: Methodological approach

	Which information?	Particular moment of collection	Sources will you use/how to obtain this data?	Documentation/ How will this data be archived?	Analysis of the data
Main RQ: 'How does living in proximity to a PBSA complex influence community cohesion among non-student residents in Paddepoel, Groningen?'	Proximity boundaries, Community cohesion in Paddepoel, PBSA influence on neighbourhoods	During data collection (1st round: Week 13, 14, 15/ 2nd round: Week 16, 17) and during desk research	Proximity boundaries → GIS tools, data collection design Community cohesion → Survey data PBSA on neighbourhoods→ theories based on literature, experience in Paddepoel based on survey data	This main research question will be answered using the data from the four sub-questions. This will be documented in the thesis and the empirical data section will be explained in the methodology part of the research.	Data analysis will be based on the combination of theories and literature from Sub-questions 1 and 2 and the empirical data gathered and analysed in sub-questions 2 and 4
Sub-Q1 What has caused a rise in Purpose Built Student Accommodation?	Causes of rise PBSA, Definition of PSBA	Writing of theoretical framework before data collection from week 13 onwards.	Academic literature, newspapers, policy documents	N/A	Reading articles, comparing, citing/paraphrasing of articles.
Sub-Q2 How does the studentification of a neighbourhood influence community cohesion?	Concepts of studentification, community cohesion, relation between studentification and community cohesion	Writing of theoretical framework before data collection from week 13 onwards.	Academic literature, newspapers, policy documents	N/A	Reading articles, comparing, citing/paraphrasing of articles.
Sub-Q3 How do non-student residents in Paddepoel experience community cohesion?	Experience of community cohesion in Paddepoel	Data collection: week 13,14, 15 2nd round of data collection: week 16,17	Qualtrics → Via surveys, different links for each proximity buffer	Data will we archived in Qualtrics and later on in Excel files and SPSS files Eventually described in thesis. Data files are deleted when thesis is finalized	Data will be analysed in Excel and SPSS, see data analysis.
Sub-Q4 How do non-student residents experience the presence of PBSAs in their neighbourhood?	Experience of PBSA among non-student residents in Paddepoel	Data collection: week 13,14, 15 2nd round of data collection: week 16,17	Qualtrics → Via surveys, different links for each proximity buffer	Data will be archived in Qualtrics and later on in Excel files and SPSS files Eventually described in thesis. Data files are deleted when thesis is finalized	Data will be analysed in SPSS and Excel, see data analysis.

Appendix 2: GIS analysis for random sampling strategy

Overview steps taken in GIS to create randomly selected map for spreading research invites
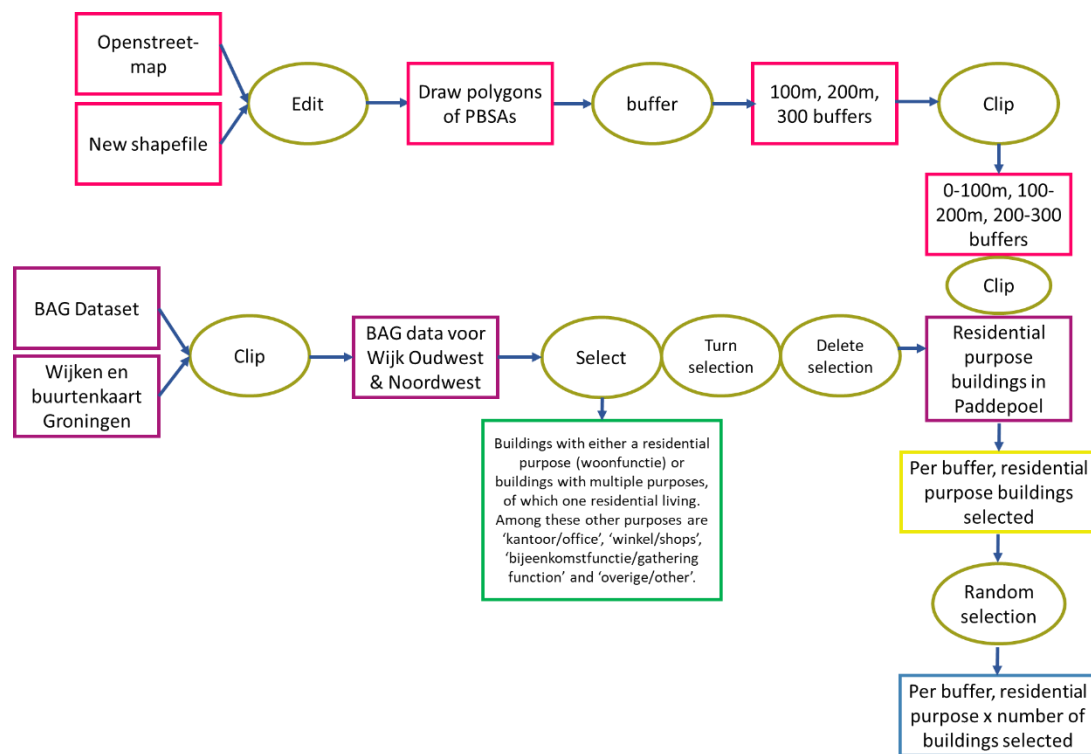
Accuracy of data: The datasets used are from PDOK, the 'Publieke Dienstverlening Op de Kaart', which is the Dutch platform where open datasets from the Dutch governments are published. The platform prouds itself with accurate and trustworthy datasets. (PDOK, 2020). However, minor mistakes or outdated data can still be included in the dataset. This was the case for 2 parts of the Shopping mall of Paddepoel with a residential purpose. Using the online BAG register tool by Kadaster, which shows the most up-to-date building and address data, it shows that the two buildings. used to have one 'Woonfunctie' or residential purpose which has been retracted (Kadaster, 2020) (Kadaster, 2020). This is visible in figure i, where the two black squares indicate the two parts of the shopping centre being questioned for accuracy.

Excluding buildings:
In the first selection (selecting Woonfunctie) table a, certain combinations have been excluded such as a combination of 'industry' and residential purpose as these types of usage often come with extra regulations and laws, such as the 'Wet geluidhinder' (Overheid.nl, 2020). Here, PBSAs were also excluded.

% random selection: The percentages chosen were to aim for similar absolute number of buildings (between 70 and 95). However, due to the second exclusion after random selection, the first buffer reached below this originally aimed goal as can be seen in table a. Furthermore, certain buildings were also excluded such as residential buildings selected that lay behind the train tracks at the border of Paddepoel which is a different city district (Oud-West), where Paddepoel, Selwerd and the Tuinwijk form one city district. (CBS, 2019). Furthermore, these cases were excluded as the heightened train tracks are a physical border between residents and the PBSAs. Of other buildings, the accuracy of the data was questioned, as explained above, especially surrounding the Shopping mall, as can be seen in figure i.

*Table a: Number of residential buildings with 'Woonfunctie' or 'Woonfunctie and …' within the three proximities based on the BAG register. *includes the four PBSA buildings.*

Proximity to PBSA	Number of buildings with 'Woonfunctie' or 'Woonfunctie & …'	Excluded number of buildings, NOT Woonfunctie[1]	Total
Within 100m	91 buildings*	62 buildings	153 buildings
Within 100-200m	474 buildings	226 buildings	700 buildings
Within 200-300m	812 buildings	618 buildings	1430 buildings
Total	**1.379 buildings**	**904 buildings**	**2.283 buildings**
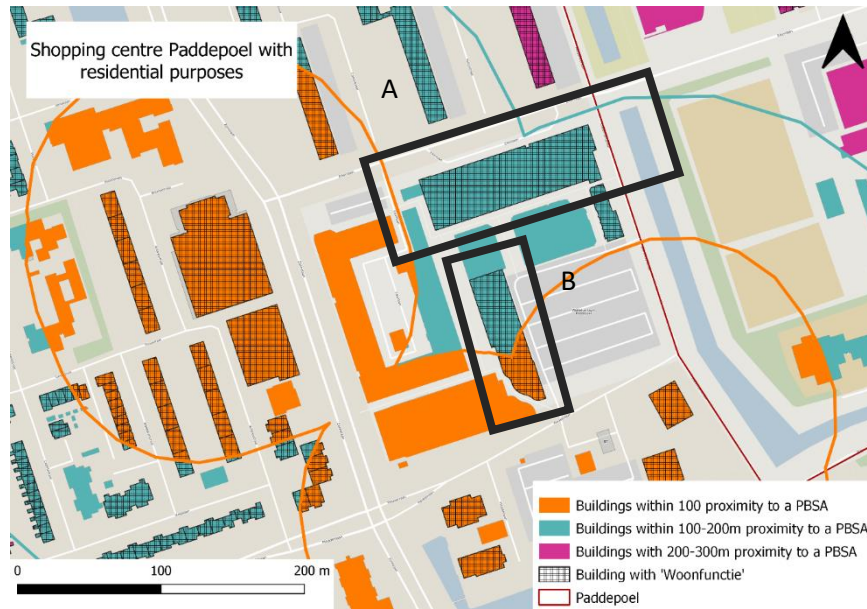
Figure i: Zoom in on shopping centre Paddepoel where the assigned functions are doubtful.

Sampling strategy for buildings with multiple addresses.
A selected building can have multiple individual addresses (e.g. 45a, 45b, 45c) while the dataset only counts one address. Therefore, if one of the selected buildings has multiple addresses, a random sampling strategy will be applied visible in table b.

GIS Sources: The sources used in the GIS sampling strategy can be found on the next page with the aim of the Shapefile and the source.

Table b: Sampling strategy for buildings with multiple addresses.

Buildings with multiple addresses	How many invites?	How distributed?
0-5 addresses	2 invites	Randomly but not consecutively
5-10 addresses	3 invites	Randomly but not consecutively
10-20 addresses	5 invites	Randomly but not consecutively
20-40 addresses	7 invites	Randomly but not consecutively
40-60 addresses	9 invites	Randomly but not consecutively
60+ addresses	12 invites	Randomly but not consecutively

Sources used in the GIS analysis

Used data from external sources	Source
The BAG-register (basisregistratie Adressen en Gebouwen) - A dataset which includes buildings in the Netherlands, as well as information on their purpose, construction year, and square meters. This function is useful to identify buildings with a residential purpose - Does not show multiple addresses per building (e.g. 45A, 45B, 45C)	PDOK, 2020. *Dataset: Basisregistratie Adressen en Gebouwen (BAG).* Retrieved from https://www.pdok.nl/introductie/-/article/basisregistratie-adressen-en-gebouwen-ba-1 on March 9th 2020.
Wijken-en buurtkaart 2019 - Shows index of neighbourhoods and suburbs in the Netherlands	CBS, 2019. Wijk-en buurtkaart. Retrieved from https://www.cbs.nl/nl-nl/dossier/nederland-regionaal/geografische-data/wijk-en-buurtkaart-2019
Openbasiskaart - Basemap based on OpenStreetMap transformed into the Rijksdriehoekstelsel, RD New	Openbasiskaart, 2020. Retrieved from https://www.openbasiskaart.nl/

Appendix 3: Theoretical basis for questionnaire

Table c: Overview of Survey questions categorized by subsections in the survey and the domains of social cohesion as discussed by Fabula et al. (2017) and Forrest & Kearns (2001)

Domains as described by Fabula et al. (2017)/Forrest & Kearns (2001)	Theme 1 Thuis en in de buurt/Home and neighbourhood	Theme 2 Sociale cohesie/community cohesion	Theme 3 Studenten in de wijk/Students in the neighbourhood
1. Common values and civic culture		Question 7	Question 15 Question 17
2. Social order and social control		Question 10 Question 11	Question 13
3. Social solidarity and social control	N/A	N/A	N/A
4. Social networks and social capital		Question 7 Question 8 Question 9	Question 12
5. Place attachment and identity	Question 4 Question 5 Question 6		Question 16

The first theme identifies some general information about the residents such as length of residency and home feeling in the neighbourhood. It is meant as an introduction to the research. Question 4, 5 and 6 aim to identify the domain of 'place attachment and identity', which relates to the 'place attachment and identity' as mentioned by Fabula et al. (2017).

The second theme investigates community cohesion to see how respondents feel about the community cohesion in their neighbourhood, in relation with sub-question 3. Question 7, 8 and 9 relate to Fabula et al.'s (2017) second and fourth domain. Question 10 and 13 inform about the 'social order and control' in the neighbourhood and whether neighbours experience nuisance and how this is communicated with their neighbours. Due to the temporary character of students' households, the rapid turnover reduces social ties with established residents, reducing community cohesion. (Fabula et al., 2017).

The question: "In welk gebied woont u? Klik op de kaart om up locatie aan te geven in de oranje, blauwe, of roze zone/In which area do you live? Click on the map to pinpoint your location in either the orange, blue or pink zone" is asked in between theme 2 and 3 This determines the respondent's position to a PBSA which can be used in later analysis to form groups based on previously explained buffers.

The third theme specifically focusses on students in the neighbourhood and the link to community cohesion, focussing on sub-question 4. The theme combines previously discussed parts of community cohesion in theme 1 and 2 such as question 15 and 17 informing about the theme 'common values and civic culture' in relation to students.

The last question, question 18 of the survey is a direct formulation of the main research question, without including proximity in the actual question.

The survey ends with an open answer question, where respondents are asked whether they have any remarks or information about students and their influence on community cohesion in the neighbourhood.

Appendix 4: Questionnaire design

Table d: Survey questions in the theme 'Thuis en in de buurt' with the question, measurement level, answer options and aim of the question explained.

Question	Measurement level (nominal, ordinal, interval, ratio)	Answer options	What does the question aim to identify?
1a (Q27). Wat is uw leeftijd? What is your age?	Ordinal	0-18, 18-35, 35-50, 50-65, 65+	Allows for the opportunity to separate age groups later on in the research and data analysis. The questions gather general information about the sample
1b (Q1). Hoe zou u de samenstelling van uw huishouden omschrijven? How would you describe the composition of your household	Nominal	Studenten huishouden (student household), Eenpersoonshuishouden (one-person household), Tweepersoonshuishouden (two-person household), gezinshuishouden (family household), Gepensioneerd huishouden (retired household)	The question aims to give inside into respondent's household formation. This gives general information about the sample and can be linked to age and other questions as a grouping factor.
2 (Q2). Hoelang woont u al aan dit adres? How long have you been living at this address?	Ordinal	Minder dan een jaar (less than a year), Minder dan 3 jaar (less than three years), Minder dan 5 jaar (less than 5 years), Minder dan 10 jaar (less than 10 years), Minder dan 20 jaar (less than 20 years) 20+ jaar/years Overig/Kan ik me niet herinneren (Other, I do not remember)	The question aims to identify if residents have lived at their current address before PBSAs were built in the neighbourhood. This question can also be linked to place identity, for example do established neighbours experience more community cohesion than newer neighbours?
3 (Q14). Hoe tevreden bent u met uw huis? How satisfied are you with your house	Ordinal	Erg ontevreden (very unsatisfied), ontevreden (unsatisfied), 'niet tevreden, niet ontevreden' (neither), tevreden (satisfied), erg tevreden (very satisfied)	This question aims to identify whether residents feel satisfied with their house. In analysis, a link can be made between this question and comfort in the neighbourhood.
4 (Q15). Paddepoel is een fijne buurt om in te wonen. Paddepoel is a comfortable/nice	Ordinal	Erg ontevreden (very unsatisfied), ontevreden (unsatisfied), 'niet tevreden, niet ontevreden' (neither), tevreden	This question aims to identify whether residents feel satisfied with their neighbourhood as a place to live. A link can be made between respondents' answers

		(satisfied), erg tevreden (very satisfied)	and 'home feeling' in the neighbourhood and if this forms a foundation for place identity as described by Fabula et al. (2017)
neighbourhood to live in.			
5 (Q6). Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? How at home do you feel in Paddepoel on a scale of 1 to 5?	ratio	1 to 5 slide bar	This question aims to explore the feeling of 'home' in the neighbourhood of Paddepoel. This often plays a role in the feeling of community cohesion, as place identity and attachment as described by Fabula et al. (2017)
6. (Q11) Bent u gehecht aan de wijk Paddepoel? Are you attached to the neighbourhood Paddepoel?	Nominal	Ja (yes), Nee (no).	This question aims to identify the place attachment in the neighbourhood, which is mentioned by Fabula et al. (2017) as one of the five domains for social cohesion.

*Table e: Survey questions in the theme '**Sociale cohesie**' with the question, measurement level, answer options and aim of the question explained.*

Question	Measurement level (nominal, ordinal, interval, ratio)	Answer options	What does the question aim to identify?
7. (Q7) In hoeverre bent u het eens met de volgende statements? To what extent do you agree with the following statements: Dit is een betrokken buurt om in te wonen. (This is an involved neighbourhood to live in) In de buurt geven we om elkaar (In the neighbourhood, we care for each other). In de buurt worden dezelfde normen en waarden gedeeld (in this neighbourhood, the same values are shared)	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	The question explores whether there is a sense of community and shared values in Paddepoel through statements. It also directly refers to the values within the neighbourhood as a link to the domain of 'common values and civic culture' and 'social netorks and social capital' as mentioned by Fabula et al. (2017) as civic engagement is seen a positive contributor to social cohesion.
8. (Q8)In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap? To what extent do you feel part of the local neighbourhood community?	Ordinal	Helemaal onderdeel (completely involved), deels onderdeel (partly involved) geen onderdeel (not involved), helemaal geen onderdeel (not involved at all)	It aims to identify if the participants feel as if they are part of the neighbourhood community. Relates to the domain 'social networks and social capital' as interaction within communities and civic

Question	Measurement level	Answer options	What does the question aim to identify?
			engagement contribute to social cohesion within a neighbourhood.
9. (Q9) Hoe vaak spreekt u uw buren? How often do you speak to your neighbours?	Ordinal	Dagelijks (Daily), Wekelijks (Weekly), Maandelijks (Monthly), Een paar keer per jaar (a few times a year), nooit (never)	This question aims to identify whether there is social contact between neighbours as a way to identify civic culture and engagement within the neighbourhood, relating to Fabula et al. (2017)
10. (Q4) Ervaart u wel eens overlast in de Buurt? Do you experience nuisance in the neighbourhood?	Ordinal	Ja, dagelijks (Yes, daily), Ja, wekelijks (Yes, weekly), Ja, maandelijks (Yes, monthly), Een paar keer per jaar (a few times a year), nooit (never)	This question aims to identify if there are types of nuisance in the neighbourhood and is linked to the next question.
11. (Q13) In hoeverre bent u het eens met de volgende statements: To what extent do you agree with the following statements? **Bij overlast benader ik mijn buren niet. (In case of nuisance, I do not approach my neighbours)** **Ik accepter veel overlast van buren. (I accept a lot of nuisance of neighbours)** **In Paddepoel is veel overlast (In Paddepoel, there is a lot of nuisance)**	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	These statements aim to see whether residents feel comfortable enough to approach neighbours and whether they experience nuisance often. Residents in a neighbourhood of community cohesion are more likely to approach their neighbours. This relates to the domain 'social order and social control' as discussed by Fabula et al. (2017) whether there is respect for different and tolerance within the neighbourhood.

Buffer question where residents are asked to locate their home on the map.

Table f: Overview of survey theme 'Studenten in de wijk'.

Question	Measurement level (nominal, ordinal, interval, ratio)	Answer options	What does the question aim to identify?
12. (Q14) Wat vindt u van de onderstaande stellingen? Er zijn te veel studenten in Paddepoel komen wonen. (Statement:	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens	This question includes four statements aiming to identify whether residents feel as if the neighbourhood has studentified and

		(Tend to agree), erg mee eens (strongly agree)	whether students cause nuisance. On the other hand, two positive statements aim to research whether residents also see a positive improvement because of the increase of students in the neighbourhood and the livelihood in the neighbourhood. These questions relate to the fourth domain of Fabula et al. (2017) 'social networks and social capital'
Too many students have moved into Paddepoel.) Studentenwoontorens geven (veel) overlast. (Statement: PSBAs result in (a lot of) nuisance.) Studenten dragen bij aan de levendigheid van de wijk. (Students contribute to the livelihood of the neighbourhood.) Paddepoel is verbeterd door de bouw van nieuwe studentenwoontorens in Paddepoel. (Paddepoel has improved due to the arrival of PBSAs.)			
13. (Q18) Als u overlast ervaart door studenten, wat voor overlast ervaart u als gevolg van studenten? (meerdere opties zijn mogelijk. If you experience nuisance by students, what type of nuisance do you experience (multiple options are possible)	Nominal	Parkeeroverlast (parking nuisance), Geluidsoverlast (noise nuisance), Overlast door afval (trash nuisance), Overlast door ongepast gedrag (nuisance by inappropriate behaviour), Mijn vorm van overlast staat hier niet tussen (my type of nuisance is not mentioned), Geen overlast (no nuisance)	This question aims to categorize the different types of nuisance are experienced as a consequence of students in the neighbourhood. It relates to the domain of 'social order and social control' by Fabula et al. (2017). Because of the possibility to select multiple options, this question will be difficult to analyze.
15. (Q19) Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden. Statement: Students and neighbourhood residents do not share the same values.	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	This question aims to identify one of the domains necessary for community cohesion as mentioned by Fabula et al. (2017) which is the domain of 'common values and civic culture'. Sharing common values is a key factor in creating community cohesion.
16. (Q20) Statement: Door de studentenwoontorens	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet	This question directly tries to identify the relationship between

		mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	place identity and PBSAs in neighbourhoods. Do residents still feel at home in a neighbourhood that has undergone significant change. It informs
voel ik me minder thuis in Paddepoel. Because of the PBSAs I feel less at home in Paddepoel.			
17. (Q21) Statement: Studentenwoontorens zorgen tot segregatie in Paddepoel. Statement: The arrival of PBSAs have caused segregation in Paddepoel.	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	This question aims to identify the theme of segregation which Smith (2008) links to a consequence of studentification of neighbourhoods.
18. (Q21.0) Statement: Studenten en studentenwoontorens hebben het gevoel van sociale cohesie in de buurtgemeenschap vermindered. Statement: Students and PBSAs have decreased the sense of community cohesion/a neighbourhood community.	Ordinal	Erg mee oneens (strongly disagree), mee oneens (tend to disagree), 'Niet mee eens, niet mee oneens' (neither agree or disagree), mee eens (Tend to agree), erg mee eens (strongly agree)	This question directly links to the main research question and identifies whether residents experience a decreased feeling of community cohesion as a consequence of PBSAs and their students.

Appendix 5: Results Theme 1: Home and in the neighbourhood

Questions are in Dutch to accurately reflect how respondents interpreted the questions.

General information about the dataset
Question 1
1a:

Wat is uw leeftijd?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-35	16	37,2	37,2	37,2
	35-50	10	23,3	23,3	60,5
	50-65	13	30,2	30,2	90,7
	65+	4	9,3	9,3	100,0
	Total	43	100,0	100,0	

1b:

Hoe zou u de samenstelling van uw huishouden omschrijven?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Eenpersoonshuishouden	16	37,2	37,2	37,2
	Tweepersoonshuishouden	8	18,6	18,6	55,8
	Gezinshuishouden	18	41,9	41,9	97,7
	Gepensioeneerd huishouden	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

Question 2:

Hoelang woont u al op dit adres?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Minder dan een jaar	5	11,6	11,6	11,6
	Minder dan drie jaar	4	9,3	9,3	20,9
	Minder dan vijf jaar	7	16,3	16,3	37,2
	Minder dan tien jaar	7	16,3	16,3	53,5
	Minder dan twintig jaar	13	30,2	30,2	83,7
	20+ jaar	7	16,3	16,3	100,0
	Total	43	100,0	100,0	

Domain Common values and civic culture
Question 4:

Paddepoel is een fijne buurt om in te wonen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	2	4,7	4,7	4,7
	Mee eens	29	67,4	67,4	72,1
	Niet mee eens, niet mee oneens	10	23,3	23,3	95,3
	Mee oneens	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Question 5:

Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	4	9,3	9,3	9,3
	3,00	11	25,6	25,6	34,9
	4,00	21	48,8	48,8	83,7
	5,00	7	16,3	16,3	100,0
	Total	43	100,0	100,0	

Statistics

		Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel
N	Valid	43
	Missing	0
Mean		3,7209
Std. Deviation		,85428

- Scale data, possibility to determine a useful mean, 3.7/5 rating for at home feeling?

Question 6:

Bent u gehecht aan de wijk Paddepoel?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja	16	37,2	37,2	37,2
	Nee	27	62,8	62,8	100,0
	Total	43	100,0	100,0	

- Nominal data, not suitable for Spearman's rho test or Kruskall-Wallis test.

Analysis of Q4+Q5 – Kruskall-Wallis test

Ranks

	Buffer zones locations	N	Mean Rank
Paddepoel is een fijne buurt om in te wonen	0-100 meter	11	23,41
	100-200 meter	16	19,13
	200-300 meter	10	21,30
	300+ meter	5	25,30
	Total	42	
Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	0-100 meter	11	22,50
	100-200 meter	16	24,06
	200-300 meter	10	21,25
	300+ meter	5	11,60
	Total	42	

Test Statistics[a,b]

	Paddepoel is een fijne buurt om in te wonen	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel
Kruskal-Wallis H	1,953	4,639
df	3	3
Asymp. Sig.	,582	,200

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

Analysis of Q4+Q5 – Spearman's Rho correlation

Correlations

			Buffer zones locations	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Paddepoel is een fijne buurt om in te wonen
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,223	,035
		Sig. (2-tailed)	.	,150	,823
		N	43	43	43
	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Correlation Coefficient	-,223	1,000	-,587[**]
		Sig. (2-tailed)	,150	.	,000
		N	43	43	43
	Paddepoel is een fijne buurt om in te wonen	Correlation Coefficient	,035	-,587[**]	1,000
		Sig. (2-tailed)	,823	,000	.
		N	43	43	43

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

Questions are in Dutch to accurately reflect how respondents interpreted the questions.

Common values and a civic culture
Question 7:
7.1

In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	2	4,7	4,7	4,7
	Mee oneens	6	14,0	14,0	18,6
	Niet mee eens, niet mee oneens	26	60,5	60,5	79,1
	Mee eens	8	18,6	18,6	97,7
	Erg mee eens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

7.2

In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	5	11,6	11,6	11,6
	Mee oneens	18	41,9	41,9	53,5
	Niet mee eens, niet mee oneens	15	34,9	34,9	88,4
	Mee eens	4	9,3	9,3	97,7
	Erg mee eens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

7.3

In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	2	4,7	4,7	4,7
	Mee oneens	7	16,3	16,3	20,9
	Niet mee eens, niet mee oneens	27	62,8	62,8	83,7
	Mee eens	6	14,0	14,0	97,7
	Erg mee eens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

Statistical analysis of Q7:

Correlations

			In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Buffer zones locations
Spearman's rho	In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	Correlation Coefficient	1,000	,593**	,479**	,092
		Sig. (2-tailed)	.	,000	,001	,557
		N	43	43	43	43
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	Correlation Coefficient	,593**	1,000	,519**	,135
		Sig. (2-tailed)	,000	.	,000	,390
		N	43	43	43	43
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Correlation Coefficient	,479**	,519**	1,000	-,169
		Sig. (2-tailed)	,001	,000	.	,280
		N	43	43	43	43
	Buffer zones locations	Correlation Coefficient	,092	,135	-,169	1,000
		Sig. (2-tailed)	,557	,390	,280	.
		N	43	43	43	43

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

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	0-100 meter	11	18,64
	100-200 meter	16	22,63
	200-300 meter	10	24,00
	300+ meter	5	19,20
	Total	42	
In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	0-100 meter	11	16,14
	100-200 meter	16	25,47
	200-300 meter	10	21,30
	300+ meter	5	21,00
	Total	42	
In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	0-100 meter	11	18,23
	100-200 meter	16	28,19
	200-300 meter	10	19,05
	300+ meter	5	12,20
	Total	42	

Test Statistics[a,b]

	In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld
Kruskal-Wallis H	1,754	4,859	9,986
df	3	3	3
Asymp. Sig.	,625	,182	,019

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Four buffers

Correlations

			Buffer zones locations	In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	,177	,180	,013
		Sig. (2-tailed)	.	,287	,280	,937
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	Correlation Coefficient	,177	1,000	,619**	,510**
		Sig. (2-tailed)	,287	.	,000	,001
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	Correlation Coefficient	,180	,619**	1,000	,555**
		Sig. (2-tailed)	,280	,000	.	,000
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Correlation Coefficient	,013	,510**	,555**	1,000
		Sig. (2-tailed)	,937	,001	,000	.
		N	38	38	38	38

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

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	0-100 meter	11	16,23
	100-200 meter	16	19,72
	200-300 meter	10	20,90
	Total	37	
In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	0-100 meter	11	14,32
	100-200 meter	16	22,34
	200-300 meter	10	18,80
	Total	37	
In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	0-100 meter	11	14,95
	100-200 meter	16	23,84
	200-300 meter	10	15,70
	Total	37	

Test Statistics[a,b]

	In hoeverre bent u het eens met de volgende stellingen? - Dit is een betrokken buurt om in te wonen	In hoeverre bent u het eens met de volgende stellingen? - In de buurt geven we om elkaar	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld
Kruskal-Wallis H	1,408	4,333	6,372
df	2	2	2
Asymp. Sig.	,495	,115	,041

a. Kruskal Wallis Test
b. Grouping Variable: Buffer zones locations

- Three buffers

Social order and social control

Question 11:

11.1

In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	4	9,3	9,3	9,3
	Oneens	9	20,9	20,9	30,2
	Niet mee eens, niet mee oneens	14	32,6	32,6	62,8
	Mee eens	13	30,2	30,2	93,0
	Erg mee eens	3	7,0	7,0	100,0
	Total	43	100,0	100,0	

11.2

In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	3	7,0	7,0	7,0
	Oneens	14	32,6	32,6	39,5
	Niet mee eens, niet mee oneens	15	34,9	34,9	74,4
	Mee eens	10	23,3	23,3	97,7
	Erg mee eens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

11.3

In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee oneens	3	7,0	7,0	7,0
	Oneens	13	30,2	30,2	37,2
	Niet mee eens, niet mee oneens	14	32,6	32,6	69,8
	Mee eens	11	25,6	25,6	95,3
	Erg mee eens	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Statistical analysis Q11

Correlations

			Buffer zones locations	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,154	-,075	,159
		Sig. (2-tailed)	.	,324	,632	,308
		N	43	43	43	43
	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	Correlation Coefficient	-,154	1,000	,128	-,113
		Sig. (2-tailed)	,324	.	,412	,472
		N	43	43	43	43
	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	Correlation Coefficient	-,075	,128	1,000	-,128
		Sig. (2-tailed)	,632	,412	.	,415
		N	43	43	43	43
	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel	Correlation Coefficient	,159	-,113	-,128	1,000
		Sig. (2-tailed)	,308	,472	,415	.
		N	43	43	43	43

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	0-100 meter	11	18,68
	100-200 meter	16	28,56
	200-300 meter	10	17,35
	300+ meter	5	13,40
	Total	42	
In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	0-100 meter	11	21,14
	100-200 meter	16	24,22
	200-300 meter	10	16,45
	300+ meter	5	23,70
	Total	42	
In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel	0-100 meter	11	19,64
	100-200 meter	16	20,16
	200-300 meter	10	23,75
	300+ meter	5	25,40
	Total	42	

Test Statistics[a,b]

	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel
Kruskal-Wallis H	9,899	2,905	1,395
df	3	3	3
Asymp. Sig.	,019	,407	,707

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Four buffers

Correlations

			Buffer zones locations	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,012	-,149	,109
		Sig. (2-tailed)	.	,944	,372	,516
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	Correlation Coefficient	-,012	1,000	,133	-,068
		Sig. (2-tailed)	,944	.	,425	,685
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	Correlation Coefficient	-,149	,133	1,000	-,115
		Sig. (2-tailed)	,372	,425	.	,491
		N	38	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel	Correlation Coefficient	,109	-,068	-,115	1,000
		Sig. (2-tailed)	,516	,685	,491	.
		N	38	38	38	38

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	0-100 meter	11	15,45
	100-200 meter	16	24,44
	200-300 meter	10	14,20
	Total	37	
In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	0-100 meter	11	18,91
	100-200 meter	16	21,69
	200-300 meter	10	14,80
	Total	37	
In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel	0-100 meter	11	17,86
	100-200 meter	16	18,34
	200-300 meter	10	21,30
	Total	37	

Test Statistics[a,b]

	In hoeverre bent u het eens met de volgende stellingen? - Bij overlast benader ik mijn buren niet.	In hoeverre bent u het eens met de volgende stellingen? - Ik accepteer veel overlast van buren	In hoeverre bent u het eens met de volgende stellingen? - Er is veel overlast in Paddepoel
Kruskal-Wallis H	7,795	2,732	,685
df	2	2	2
Asymp. Sig.	,020	,255	,710

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Three buffers

Question 10:

Ervaart u wel overlast in de buurt?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja, dagelijks	5	11,6	11,6	11,6
	Ja, wekelijks	4	9,3	9,3	20,9
	Ja, maandelijks	5	11,6	11,6	32,6
	Een paar keer per jaar	22	51,2	51,2	83,7
	Nooit	7	16,3	16,3	100,0
	Total	43	100,0	100,0	

Statistical analysis Question 10

Correlations

			Buffer zones locations	Ervaart u wel overlast in de buurt?
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,227
		Sig. (2-tailed)	.	,142
		N	43	43
	Ervaart u wel overlast in de buurt?	Correlation Coefficient	-,227	1,000
		Sig. (2-tailed)	,142	.
		N	43	43

- Four buffers

Correlations

			Buffer zones locations	Ervaart u wel overlast in de buurt?
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,181
		Sig. (2-tailed)	.	,277
		N	38	38
	Ervaart u wel overlast in de buurt?	Correlation Coefficient	-,181	1,000
		Sig. (2-tailed)	,277	.
		N	38	38

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
Ervaart u wel overlast in de buurt?	0-100 meter	11	19,91
	100-200 meter	16	19,56
	200-300 meter	10	17,10
	Total	37	

Test Statistics[a,b]

	Ervaart u wel overlast in de buurt?
Kruskal-Wallis H	,529
df	2
Asymp. Sig.	,768

a. Kruskal Wallis Test
b. Grouping Variable: Buffer zones locations

- Three buffers

Question 8:

In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal onderdeel van de buurtgemeenschap	3	7,0	7,0	7,0
	Deels onderdeel van de buurtgemeenschap	19	44,2	44,2	51,2
	Geen onderdeel van de buurtgemeenschao	19	44,2	44,2	95,3
	Helemaal geen onderdeel van de buurtgemeenschap	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Question 9:

Hoevaak spreekt u uw buren?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dagelijks	12	27,9	27,9	27,9
	Wekelijks	15	34,9	34,9	62,8
	Maandelijks	10	23,3	23,3	86,0
	Een paar keer per jaar	4	9,3	9,3	95,3
	Nooit	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Statistical analysis Q8+Q9

Correlations

			Buffer zones locations	In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?	Hoevaak spreekt u uw buren?
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,263	-,194
		Sig. (2-tailed)	.	,088	,214
		N	43	43	43
	In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?	Correlation Coefficient	-,263	1,000	,314[*]
		Sig. (2-tailed)	,088	.	,040
		N	43	43	43
	Hoevaak spreekt u uw buren?	Correlation Coefficient	-,194	,314[*]	1,000
		Sig. (2-tailed)	,214	,040	.
		N	43	43	43

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

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
Hoevaak spreekt u uw buren?	0-100 meter	11	24,95
	100-200 meter	16	21,44
	200-300 meter	10	20,30
	300+ meter	5	16,50
	Total	42	
In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?	0-100 meter	11	27,86
	100-200 meter	16	19,94
	200-300 meter	10	18,85
	300+ meter	5	17,80
	Total	42	

Test Statistics[a,b]

	Hoevaak spreekt u uw buren?	In hoeverre voelt u zich onderdeel van de lokale buurtgemeen schap?
Kruskal-Wallis H	1,943	4,997
df	3	3
Asymp. Sig.	,584	,172

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Four buffers

Correlations

			Buffer zones locations	Hoevaak spreekt u uw buren?	In hoeverre voelt u zich onderdeel van de lokale buurtgemeen schap?
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,139	-,259
		Sig. (2-tailed)	.	,406	,116
		N	38	38	38
	Hoevaak spreekt u uw buren?	Correlation Coefficient	-,139	1,000	,306
		Sig. (2-tailed)	,406	.	,062
		N	38	38	38
	In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?	Correlation Coefficient	-,259	,306	1,000
		Sig. (2-tailed)	,116	,062	.
		N	38	38	38

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
Hoevaak spreekt u uw buren?	0-100 meter	11	21,50
	100-200 meter	16	18,34
	200-300 meter	10	17,30
	Total	37	
In hoeverre voelt u zich onderdeel van de lokale buurtgemeenschap?	0-100 meter	11	24,23
	100-200 meter	16	17,16
	200-300 meter	10	16,20
	Total	37	

Test Statistics[a,b]

	Hoevaak spreekt u uw buren?	In hoeverre voelt u zich onderdeel van de lokale buurtgemeen schap?
Kruskal-Wallis H	,969	4,497
df	2	2
Asymp. Sig.	,616	,106

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Three buffers

Appendix 7: Results Theme 3: Students in the neighbourhood

Common values and civic culture

Question 15:

Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	3	7,0	7,0	7,0
	Mee eens	15	34,9	34,9	41,9
	Niet mee eens, niet mee oneens	15	34,9	34,9	76,7
	Mee oneens	9	20,9	20,9	97,7
	Erg mee oneens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.
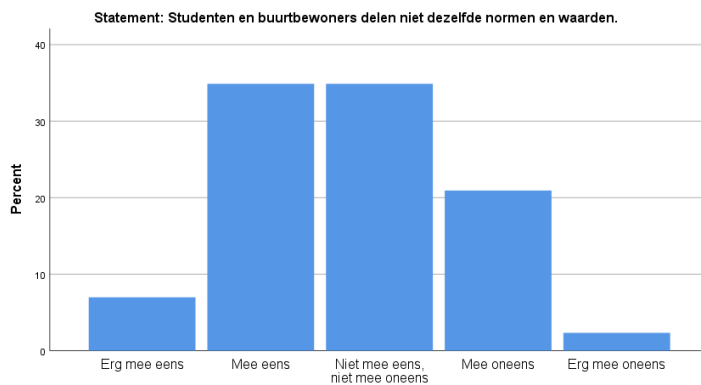
Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.

Question 17:

Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	2	4,7	4,7	4,7
	Mee eens	11	25,6	25,6	30,2
	Niet mee eens, niet mee oneens	13	30,2	30,2	60,5
	Mee oneens	15	34,9	34,9	95,3
	Erg mee oneens	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.

Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.

Statistical analysis of Q15+Q17

Correlations

			Buffer zones locations	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,225	-,237
		Sig. (2-tailed)	.	,148	,126
		N	43	43	43
	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Correlation Coefficient	-,225	1,000	,531[**]
		Sig. (2-tailed)	,148	.	,000
		N	43	43	43
	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.	Correlation Coefficient	-,237	,531[**]	1,000
		Sig. (2-tailed)	,126	,000	.
		N	43	43	43

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

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	0-100 meter	11	25,36
	100-200 meter	16	20,47
	200-300 meter	10	19,65
	300+ meter	5	20,00
	Total	42	
Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.	0-100 meter	11	23,77
	100-200 meter	16	22,47
	200-300 meter	10	19,20
	300+ meter	5	18,00
	Total	42	

Test Statistics[a,b]

	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.
Kruskal-Wallis H	1,670	1,362
df	3	3
Asymp. Sig.	,644	,714

a. Kruskal Wallis Test
b. Grouping Variable: Buffer zones locations

- Four buffers

Correlations

			Buffer zones locations	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,240	-,220
		Sig. (2-tailed)	.	,146	,184
		N	38	38	38
	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Correlation Coefficient	-,240	1,000	,538[**]
		Sig. (2-tailed)	,146	.	,000
		N	38	38	38
	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.	Correlation Coefficient	-,220	,538[**]	1,000
		Sig. (2-tailed)	,184	,000	.
		N	38	38	38

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

- Three buffers

Ranks

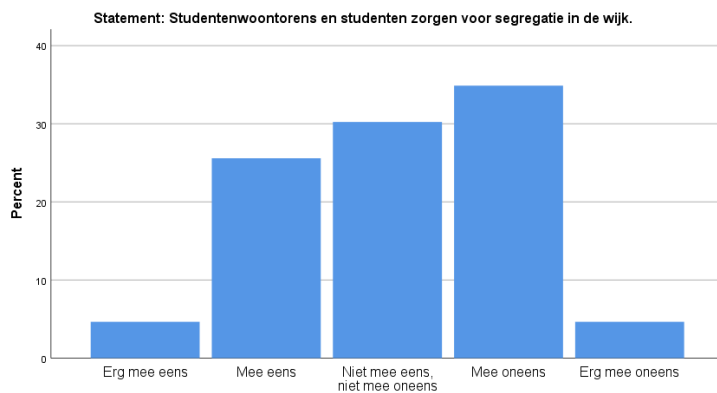|	Buffer zones locations	N	Mean Rank
Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	0-100 meter	11	22,18
	100-200 meter	16	17,91
	200-300 meter	10	17,25
	Total	37	
Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.	0-100 meter	11	20,59
	100-200 meter	16	19,47
	200-300 meter	10	16,50
	Total	37	

Test Statistics[a,b]

	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Statement: Studentenwoontorens en studenten zorgen voor segregatie in de wijk.
Kruskal-Wallis H	1,507	,885
df	2	2
Asymp. Sig.	,471	,643

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Three buffers

Social order and social control

Question 13:

Type of nuisance as consequence of students (multiple options possible)	(Valid) Selected by	Percentage selected	(Missing) Not selected by	Percentage not selected
Parkeeroverlast/Parking nuisance	9	20,9%	34	79,1%
Geluidsoverlast/Noise nuisance	15	34,9%	28	65,1%
Afval/Garbage nuisance	13	30,2%	30	69,8%
Ongepast gedrag/Unappropriate behaviour	6	14,0%	37	86,0%
Mijn vorm van overlast staat er niet tussen/My experienced nuisance is not mentioned	5	11,6%	38	88,4%
Geen overlast/No nuisance	16	37,2%	27	62,8%

Question 12:

12.1

Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	6	14,0	14,0	14,0
	Mee eens	6	14,0	14,0	27,9
	Niet mee eens, niet mee oneens	10	23,3	23,3	51,2
	Mee oneens	16	37,2	37,2	88,4
	Erg mee oneens	5	11,6	11,6	100,0
	Total	43	100,0	100,0	

12.2

Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	2	4,7	4,7	4,7
	Mee eens	5	11,6	11,6	16,3
	Niet mee eens, niet mee oneens	11	25,6	25,6	41,9
	Mee oneens	21	48,8	48,8	90,7
	Erg mee oneens	4	9,3	9,3	100,0
	Total	43	100,0	100,0	

Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.
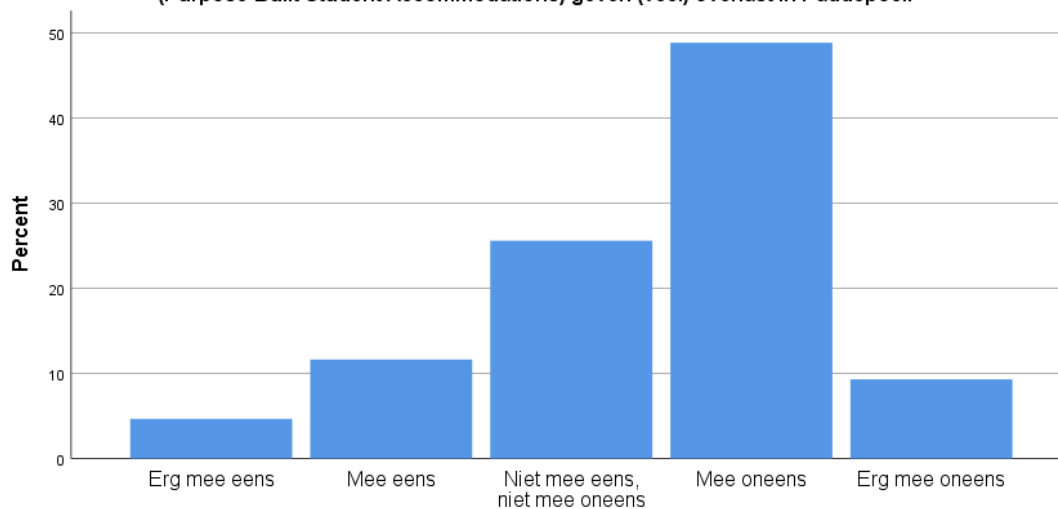
Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.

12.3

Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	4	9,3	9,3	9,3
	Mee eens	23	53,5	53,5	62,8
	Niet mee eens, niet mee oneens	10	23,3	23,3	86,0
	Mee oneens	5	11,6	11,6	97,7
	Erg mee oneens	1	2,3	2,3	100,0
	Total	43	100,0	100,0	

12.4

Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	1	2,3	2,3	2,3
	Mee eens	14	32,6	32,6	34,9
	Niet mee eens, niet mee oneens	20	46,5	46,5	81,4
	Mee oneens	4	9,3	9,3	90,7
	Erg mee oneens	4	9,3	9,3	100,0
	Total	43	100,0	100,0	

Statistical analysis Question 12:

Correlations

			Buffer zones locations	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,228	-,107	,129	-,019
		Sig. (2-tailed)	.	,141	,496	,410	,904
		N	43	43	43	43	43
	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Correlation Coefficient	-,228	1,000	,718[**]	-,557[**]	-,336[*]
		Sig. (2-tailed)	,141	.	,000	,000	,027
		N	43	43	43	43	43
	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Correlation Coefficient	-,107	,718[**]	1,000	-,520[**]	-,364[*]
		Sig. (2-tailed)	,496	,000	.	,000	,017
		N	43	43	43	43	43
	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Correlation Coefficient	,129	-,557[**]	-,520[**]	1,000	,473[**]
		Sig. (2-tailed)	,410	,000	,000	.	,001
		N	43	43	43	43	43
	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.	Correlation Coefficient	-,019	-,336[*]	-,364[*]	,473[**]	1,000
		Sig. (2-tailed)	,904	,027	,017	,001	.
		N	43	43	43	43	43

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

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

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	0-100 meter	11	26,91
	100-200 meter	16	19,72
	200-300 meter	10	17,90
	300+ meter	5	22,50
	Total	42	
Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	0-100 meter	11	23,59
	100-200 meter	16	21,22
	200-300 meter	10	18,40
	300+ meter	5	24,00
	Total	42	
Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	0-100 meter	11	20,82
	100-200 meter	16	19,66
	200-300 meter	10	25,00
	300+ meter	5	21,90
	Total	42	
Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.	0-100 meter	11	22,95
	100-200 meter	16	21,06
	200-300 meter	10	21,20
	300+ meter	5	20,30
	Total	42	

Test Statistics[a,b]

	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.
Kruskal-Wallis H	3,608	1,347	1,445	,266
df	3	3	3	3
Asymp. Sig.	,307	,718	,695	,966

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Four buffers

Correlations

			Buffer zones locations	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,297	-,208	,149	-,004
		Sig. (2-tailed)	.	,070	,211	,372	,982
		N	38	38	38	38	38
	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Correlation Coefficient	-,297	1,000	,790**	-,594**	-,335*
		Sig. (2-tailed)	,070	.	,000	,000	,040
		N	38	38	38	38	38
	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Correlation Coefficient	-,208	,790**	1,000	-,613**	-,445**
		Sig. (2-tailed)	,211	,000	.	,000	,005
		N	38	38	38	38	38
	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Correlation Coefficient	,149	-,594**	-,613**	1,000	,539**
		Sig. (2-tailed)	,372	,000	,000	.	,000
		N	38	38	38	38	38
	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.	Correlation Coefficient	-,004	-,335*	-,445**	,539**	1,000
		Sig. (2-tailed)	,982	,040	,005	,000	.
		N	38	38	38	38	38

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

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

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	0-100 meter	11	23,68
	100-200 meter	16	17,56
	200-300 meter	10	16,15
	Total	37	
Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	0-100 meter	11	21,18
	100-200 meter	16	19,09
	200-300 meter	10	16,45
	Total	37	
Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	0-100 meter	11	18,45
	100-200 meter	16	17,47
	200-300 meter	10	22,05
	Total	37	
Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.	0-100 meter	11	20,14
	100-200 meter	16	18,47
	200-300 meter	10	18,60
	Total	37	

Test Statistics[a,b]

	Wat vindt u van de onderstaande stellingen? - Er zijn teveel studenten in Paddepoel komen wonen.	Wat vindt u van de onderstaande stellingen? - Studentenwoontorens, zoals Upsilon of Campus Zonnelaan (Purpose-Built Student Accommodations) geven (veel) overlast in Paddepoel.	Wat vindt u van de onderstaande stellingen? - Studenten dragen bij aan de levendigheid van de wijk.	Wat vindt u van de onderstaande stellingen? - Paddepoel is verbeterd door de bouw van studentenwoontorens in Paddepoel.
Kruskal-Wallis H	3,228	1,209	1,341	,202
df	2	2	2	2
Asymp. Sig.	,199	,546	,511	,904

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations
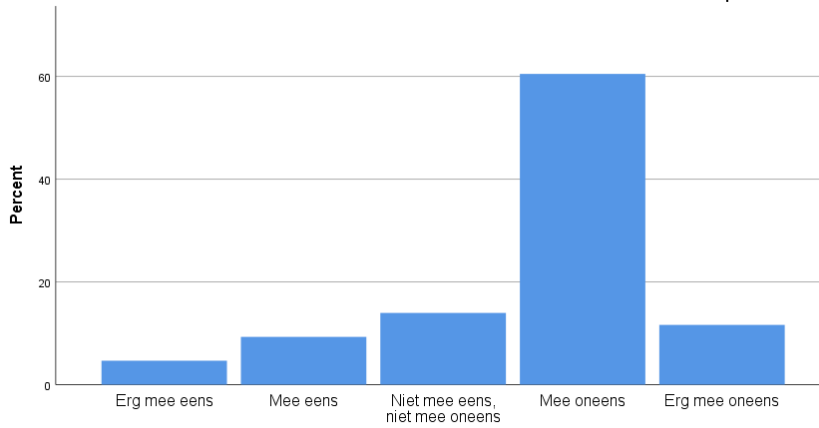
- Three buffers

Place attachment and identity

Question 16:

Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	2	4,7	4,7	4,7
	Mee eens	4	9,3	9,3	14,0
	Niet mee eens, niet mee oneens	6	14,0	14,0	27,9
	Mee oneens	26	60,5	60,5	88,4
	Erg mee oneens	5	11,6	11,6	100,0
	Total	43	100,0	100,0	

Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel

Statistical analysis of question 16

Correlations

			Buffer zones locations	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,104	-,223
		Sig. (2-tailed)	.	,507	,150
		N	43	43	43
	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Correlation Coefficient	-,104	1,000	-,171
		Sig. (2-tailed)	,507	.	,272
		N	43	43	43
	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Correlation Coefficient	-,223	-,171	1,000
		Sig. (2-tailed)	,150	,272	.
		N	43	43	43

- Four buffers

Test Statistics[a,b]

	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel
Kruskal-Wallis H	,472
df	3
Asymp. Sig.	,925

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

Ranks

	Buffer zones locations	N	Mean Rank
Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	0-100 meter	11	22,82
	100-200 meter	16	21,50
	200-300 meter	10	21,40
	300+ meter	5	18,80
	Total	42	

- Four buffers

Correlations

			Buffer zones locations	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,060
		Sig. (2-tailed)	.	,719
		N	38	38
	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Correlation Coefficient	-,060	1,000
		Sig. (2-tailed)	,719	.
		N	38	38

- Three buffers

Test Statistics[a,b]

	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel
Kruskal-Wallis H	,097
df	2
Asymp. Sig.	,953

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

Ranks

	Buffer zones locations	N	Mean Rank
Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	0-100 meter	11	19,73
	100-200 meter	16	18,81
	200-300 meter	10	18,50
	Total	37	

- Three buffers

Question 18

Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap verminderd.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg mee eens	1	2,3	2,3	2,3
	Mee eens	6	14,0	14,0	16,3
	Niet mee eens, niet mee oneens	15	34,9	34,9	51,2
	Mee oneens	19	44,2	44,2	95,3
	Erg mee oneens	2	4,7	4,7	100,0
	Total	43	100,0	100,0	

Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.
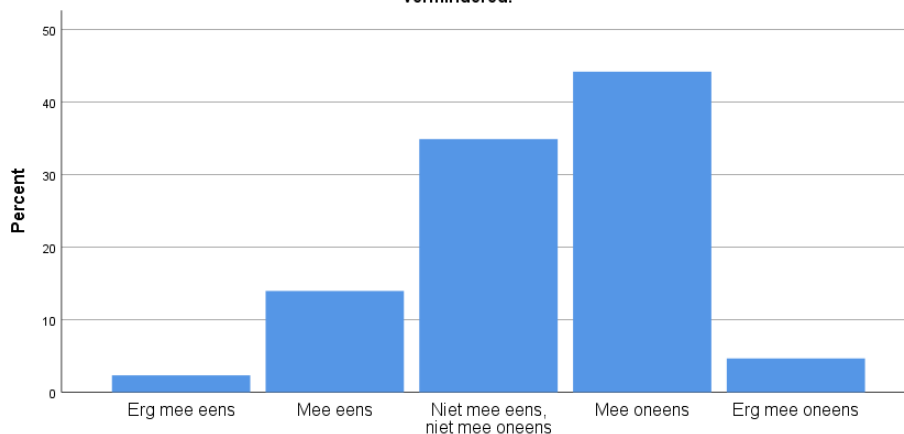
Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.

Statistical analysis Q18

Correlations

			Buffer zones locations	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,222
		Sig. (2-tailed)	.	,153
		N	43	43
	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.	Correlation Coefficient	-,222	1,000
		Sig. (2-tailed)	,153	.
		N	43	43

- Four buffers

Ranks

	Buffer zones locations	N	Mean Rank
Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.	0-100 meter	11	23,64
	100-200 meter	16	21,72
	200-300 meter	10	21,40
	300+ meter	5	16,30
	Total	42	

Test Statistics[a,b]

	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.
Kruskal-Wallis H	1,440
df	3
Asymp. Sig.	,696

a. Kruskal Wallis Test
b. Grouping Variable: Buffer zones locations

- Four buffers

xxx

Correlations

			Buffer zones locations	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,154
		Sig. (2-tailed)	.	,355
		N	38	38
	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.	Correlation Coefficient	-,154	1,000
		Sig. (2-tailed)	,355	.
		N	38	38

- Three buffers

Ranks

	Buffer zones locations	N	Mean Rank
Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.	0-100 meter	11	20,18
	100-200 meter	16	18,63
	200-300 meter	10	18,30
	Total	37	

Test Statistics[a,b]

	Studenten en studentenwoontorens hebben het gevoel van sociale cohese in de buurtgemeenschap vermindered.
Kruskal-Wallis H	,226
df	2
Asymp. Sig.	,893

a. Kruskal Wallis Test

b. Grouping Variable: Buffer zones locations

- Three buffers

Cross theme statistical analysis

Between question 7.3 and question 15:

Correlations

			Buffer zones locations	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	,013	-,240
		Sig. (2-tailed)	.	,937	,146
		N	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Correlation Coefficient	,013	1,000	,250
		Sig. (2-tailed)	,937	.	,130
		N	38	38	38
	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Correlation Coefficient	-,240	,250	1,000
		Sig. (2-tailed)	,146	,130	.
		N	38	38	38

- 3 buffer zones

Correlations

			Buffer zones locations	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	,013	-,240
		Sig. (2-tailed)	.	,937	,146
		N	38	38	38
	In hoeverre bent u het eens met de volgende stellingen? - In de buurt worden dezelfde normen en waarden gedeeld	Correlation Coefficient	,013	1,000	,250
		Sig. (2-tailed)	,937	.	,130
		N	38	38	38
	Statement: Studenten en buurtbewoners delen niet dezelfde normen en waarden.	Correlation Coefficient	-,240	,250	1,000
		Sig. (2-tailed)	,146	,130	.
		N	38	38	38

- 4 buffers zones

Between question 10 and 13:
- In Question 13, 16 respondents said 'I do not experience nuisance caused by students'
- In Question 10, 7 people said they never experienced nuisance, and 22 respondents only said they experienced nuisance a few times a year.
- Nominal data is hard to analyse using a statistical test

Between Question 5 and 16

Correlations

			Buffer zones locations	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,223	-,104
		Sig. (2-tailed)	.	,150	,507
		N	43	43	43
	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Correlation Coefficient	-,223	1,000	-,171
		Sig. (2-tailed)	,150	.	,272
		N	43	43	43
	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Correlation Coefficient	-,104	-,171	1,000
		Sig. (2-tailed)	,507	,272	.
		N	43	43	43

- Using four buffers

Correlations

			Buffer zones locations	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	-,060	-,036
		Sig. (2-tailed)	.	,719	,832
		N	38	38	38
	Statement: Door de komst van studentenwoontorens voel ik me minder thuis in Paddepoel	Correlation Coefficient	-,060	1,000	-,246
		Sig. (2-tailed)	,719	.	,137
		N	38	38	38
	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Correlation Coefficient	-,036	-,246	1,000
		Sig. (2-tailed)	,832	,137	.
		N	38	38	38

- Using three buffer zones.

Spearman's correlation for Question 2 and 5 and the buffer variable.

Correlations

			Buffer zones locations	Hoelang woont u al op dit adres?	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel
Spearman's rho	Buffer zones locations	Correlation Coefficient	1,000	,216	-,223
		Sig. (2-tailed)	.	,165	,150
		N	43	43	43
	Hoelang woont u al op dit adres?	Correlation Coefficient	,216	1,000	,100
		Sig. (2-tailed)	,165	.	,523
		N	43	43	43
	Hoe 'thuis' voelt u zich in Paddepoel op een schaal van 1 tot 5? - Thuis gevoel	Correlation Coefficient	-,223	,100	1,000
		Sig. (2-tailed)	,150	,523	.
		N	43	43	43