Assess the conflict caused by studentification in Clifton Bristol

Edexcel A level Geography NEA

Summer 2024

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Purpose of the Independent Investigation

Geography independent investigation form

Candidate name	Candidate number	Examination Series: June 2024
Centre name		Centre number

Investigation title	How the title links to specification content
Assess the conflict caused by studentification in Clifton, Bristol.	4A.5, b. Lived experience of, and attachment to, places vary according to age, ethnicity, gender, length of residence (new migrants, students) and levels of deprivation: these in turn impact on levels of engagement.

Planned investigation hypothesis or question/sub-questions

What are the social conflicts created by studentification in Clifton Bristol?

What are the economic conflicts created by studentification in Clifton Bristol?

What are the environmental conflicts created by studentification in Clifton Bristol?

What cultural impacts/conflicts are created by studentification?

Investigation focus – indication of how the enquiry will enable the candidate to address their investigation title and explore their theme in relation to the chosen geographical area

To find out whether studentification in an area (Clifton) creates conflict socially, environmentally and economically.

And finally, to assess which causes the most substantial conflict in Clifton.

Bristol is an easily accessible city by train, and I will be able to travel their multiple times easily. It is appropriate for this Project as it has two unis and is highly affected by Studentification.

Planned methodology –	**Individual** / Group data collection (Delete as appropriate)
Primary data will consist of environmental surveys and questionnaires (stratified), asking people's opinions on studentification. Secondary data will look at the housing composition of Bristol to see what percentage of Bristol student accommodation is.	

Teacher's approval and comments - The investigation title needs to focus on the conflict caused by students, you need to pick and appropriate ward in your chosen city to make it manageable. Write out the specification links in full. Focus needs to be a discussion about why your project is appropriate and manageable. Consider sampling methods for your methodology, also frequency and timing.

Teacher signature	Date

1.1 Literature Review

Studentification is the contradictory social, cultural, economic, and physical changes resulting from an influx of students within privately rented accommodation in particular neighbourhoods. (Dunn et al., 2021). It usually involves large changes in an area (Dunn et al., 2016). These changes affect each other, one negative impact slowly deteriorates other infrastructure and constructs and leads to different conflicts, within the city area. This produces a spiral of decline. As seen in Figure 1.1.1a where students have lower attachment levels to their environment and so deteriorate it which then effects their relationship within the community, causing them to be villainised.
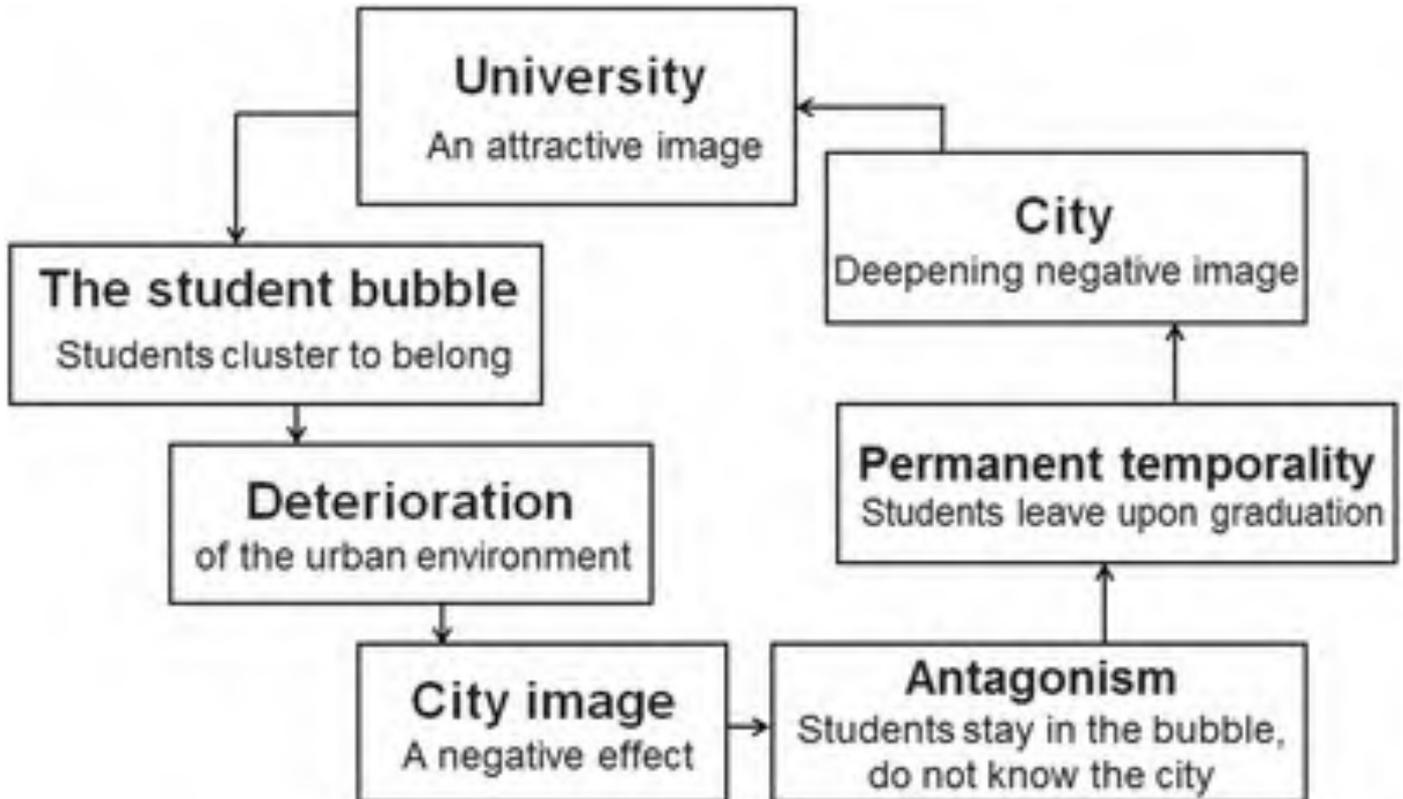
Figure 1.1.1a, the general spiral of decline caused by studentification.
(Avni and Alfasi, 2018).

1.1.2 What are the potential conflicts that studentification could cause?

Students who may have a shorter residence time and who are absent on most holidays, may have little regard for their surrounding longer-term residents. These contrasting views between different players within the community cause conflicts around the priorities and strategies for regeneration. (Dunn et al., 2021). The conflicts include social, economic, cultural, and environmental.

Environmental	Economic	Social
Increased on-street parking. **Conversion of family housing into student residences (HMOs)** Purpose-built accommodation, that is out of keeping with the urban character Poorer quality housing stock Increased population density. Increase of squalor	House price inflation. Changes in retail and entertainment services. Seasonal employment (in shops, pubs). Demand for private rented housing.	Increase of anti-social behaviour Increased levels of crime. Increased pressures on services. Decreased demand for health and educational services. Displacement / replacement of established residents. Increased competition for private rented houses

Figure 1.1.2a

(slideplayer.com, n.d.)

Some of the conflicts seen in Figure 1.1.2a, such as increased deprivation, change in services, displacement of established residents and others can also decrease the levels of engagement for the communities.

Figure 16.8 Criteria for the need for regeneration
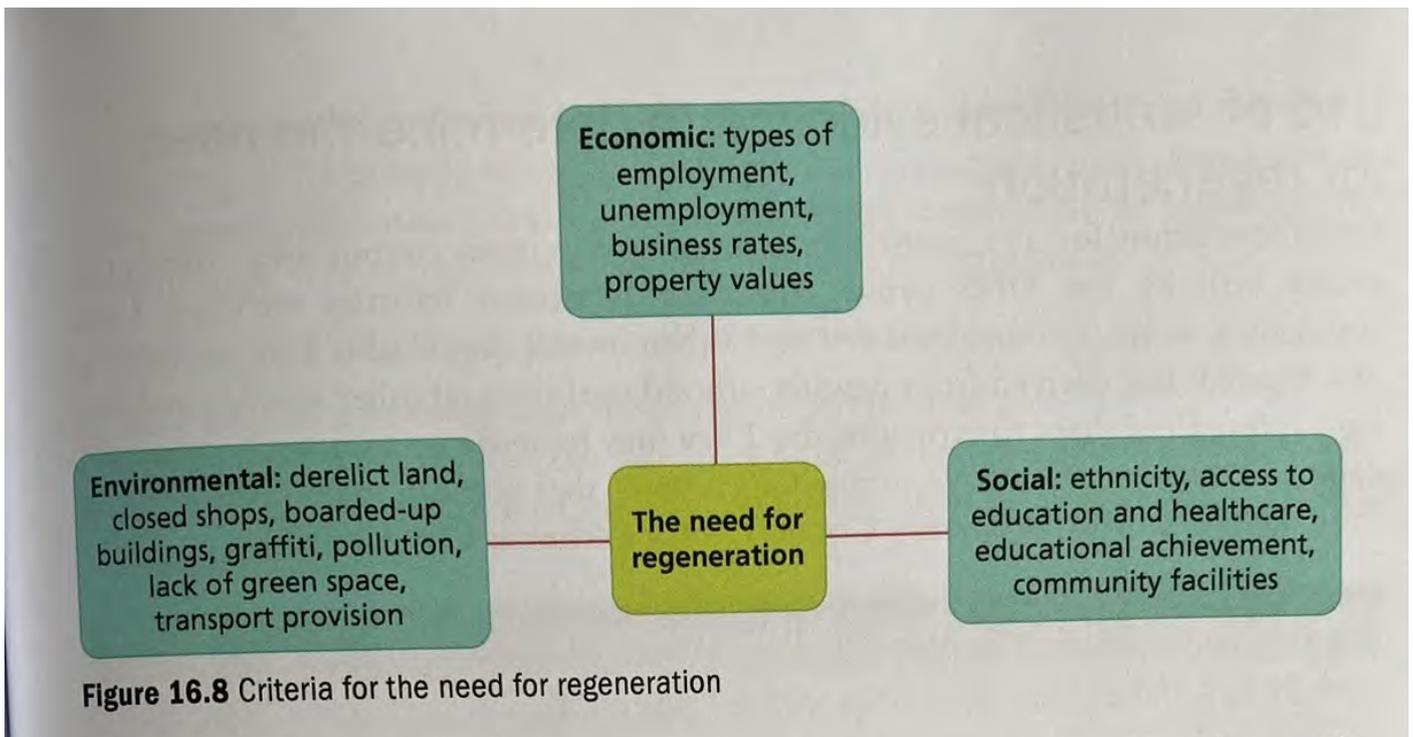
Figure 1.1.2b

(Dunn et al., 2021)

The decrease in the level of engagement, then cause other conflicts such as cultural, economic, and environmental, for example a low level of engagement would make players more likely to litter and damage there surrounding environment. As seen in Figures 1.1.2a and 1.1.2b, the constant degradation of all factors leads to a 'Spiral of decline' for the communities. A spiral of decline can sometimes be named the negative multiplier effect as it causes steps back for urban communities, as one changing characteristic causes a negative change in another, making them more in need of regeneration strategies. (qualifications.pearson.com, n.d.) As strain is put on public services, causing traffic problems (Anderson, 2016), an increase in derelict land and high levels of unemployment. The need for regeneration and gentrification increases with the presence of students and the city's wanting to improve students' attachment to try and combat effects of studentification but this outlook from councils forgets about residents producing social conflicts between residents and students.

Figure 16.8 Criteria for the need for regeneration
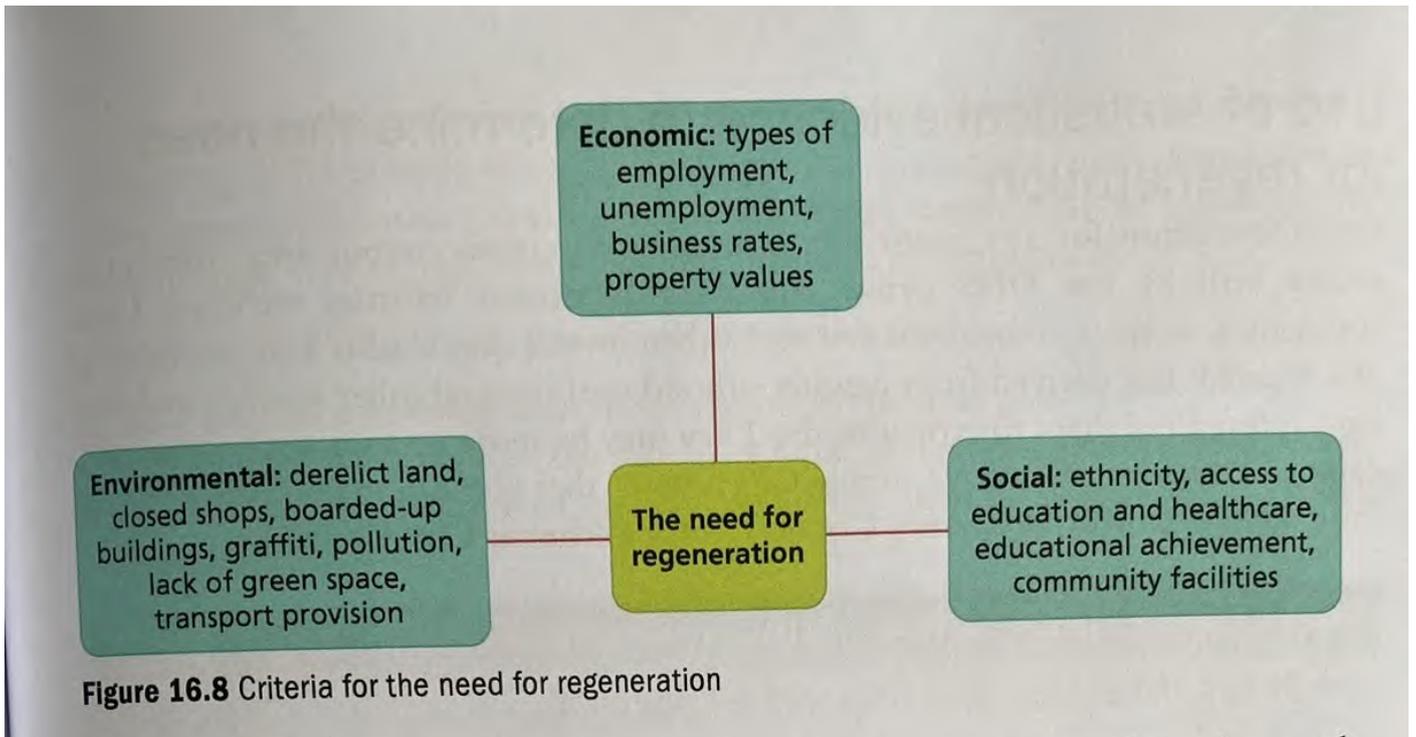
Figure 1.1.2c shows some conflicts caused by studentification and why it means city's facing studentification require regeneration.

(Dunn et al., 2021).

1.1.3 Studentification in Leeds

Studentification is a term now understood as places offering higher education provision. Since 1995, the number of students attending universities has increased, therefore resulting in an increasing demand for HMO accommodation. In Headingly, Leeds, two-thirds of the residents are students all in simultaneous 73 streets of terraced housing. (Dunn et al., 2021) For non-students it has become an increasingly unpleasant place to live. Friction between students and residents often creates conflict. (Allsop, n.d.) A threshold measure has been applied in several cities undergoing studentification in order to tackle the high concentrations of students in some areas. And in Leeds spatial policy measures limiting the amount of housing that can be turned into HMOs has been applied. (Putting a threshold on studentification an international comparative assessment of a threshold measure in the context of studentification, n.d.)

1.1.4 Studentification in Clifton, Bristol

In Bristol there are two different University's both centred in the city, The university of Bristol and The University of West England. Meaning overall there are 43,700 full time students living in Bristol making up 9.2% of the total population. (Carter, 2022). Clifton, a ward Bristol where students from both universities choose to live as both undergraduates and postgraduates is affected by the conflicts caused by studentification. There are "no plans" in place to manage the growth. The residents' associations claim the studentification of Clifton has produced an "aggressively expanding late-night economy" and was "totally altering" the area's character. It said, "students' houses were a problem to the area causing families to be displaced". (Clifton overwhelmed by 'too many' Bristol students, claim residents, 2015) This shows that in Bristol social impacts are one of the major conflicts caused by studentification. Clifton has one of the highest numbers of HMOs in Bristol. The university expansion, over 50% in the last 10 years, causes a concern over an imbalance in communities and rising problems with waste and noise management as family homes are removed from the housing stock. (Andrews,2022) Clifton is an established residential area where student housing always leads to physical deterioration. Student housing is not well maintained with multiple rubbish bins, litter, and untidy front gardens. (Clifton overwhelmed by 'too many' Bristol students, claim residents, 2015) Minimal investment by absentee landlords and lack of care by occupants reduces the quality of living in the area. There is a marked increase in litter and refuse, as the infrastructure of the residential streets is designed for lower density usage. (Clifton Down, Police.uk)

Allsop. (n.d.). Headingly: from studentification to inclusive communities. [online] Available at:
https://www.allsop.co.uk/insights/headingley-from-studentification-to-inclusive-
communities/#:~:text=Leeds%20is%20well%2Dknown%20for [Accessed 17 Apr. 2023].

Anderson, J. (2016). Studentification. [online] Available at:
https://www.cardiff.ac.uk/__data/assets/pdf_file/0003/348510/studentification.pdf.

Avni, N. and Alfasi, N. (2018). UniverCity: The Vicious Cycle of Studentification in a Peripheral City. *City & Community*, 17(4), pp.1248–1269. doi:https://doi.org/10.1111/cico.12338.

Bethan Andrews. (2022). The Bristol area with one of the highest concentration of HMOs - what's the impact? [online] Available at:

Carter, M. (2022). *Statistics and census information*. [online] Bristol City Council. Available at: https://www.bristol.gov.uk/council-and-mayor/statistics-census-information.

Clifton Down | Police.uk (www.police.uk)

Clifton overwhelmed by 'too many' Bristol students, claim residents. (2015). BBC News. [online] 14 Oct. Available at: https://www.bbc.co.uk/news/uk-england-bristol-34525939 [Accessed 17 Apr. 2023].

Dunn, C., Adams, K., Holmes, D., Oakes, S., Warn, S., Witherick, M. and Chiles, M. (2021). *Geography. 1.* London: Hodder Education.

Dunn, C., Adams, K., Holmes, D., Oakes, S., Witherick, M. and Warn, S. (2016). Edexcel A level Geography Book 1 Third Edition. Hodder Education.

https://www.bristolworld.com/news/clifton-revealed-to-have-highly-concentrated-number-of-hmos-so-whats-the-impact-on-local-communities-3710190 [Accessed 17 Apr.2023]

Putting a threshold on studentification An international comparative assessment of a threshold measure in the context of studentification. (n.d.). Available at:
https://frw.studenttheses.ub.rug.nl/3475/1/Bachelor_Thesis_Finn_Winkelmann_Studentification.pdf.

qualifications.pearson.com. (n.d.). *Page not found | Pearson qualifications*. [online] Available at:
https://qualifications.pearson.com/content/dam/pdf/A%20Level/Geography/2016/teaching-and-learning-materials/Edexcel2016_ASandAlevelGeography_Topic4A_RegeneratingPlaces_TopicBooklet.pdf.

slideplayer.com. (n.d.). *Studentification and Moral Panic: When is a 'Student Area' a 'Student Ghetto'? Darren P. Smith University of Brighton, UK The 3 rd International Population. - ppt download*. [online] Available at: https://slideplayer.com/slide/3837349/.

www.bristol.gov.uk. (2022). Logon. [online] Available at: https://democracy.bristol.gov.uk/Data/Cabot.

1.2 Framework of Investigation

TITLE: **Assess the conflict caused by studentification in Clifton, Bristol.**

ROUTE OF ENQUIRY:

What are the social conflicts created by studentification in Clifton Bristol?

What are the economic conflicts created by studentification in Clifton Bristol?

What are the environmental conflicts created by studentification in Clifton Bristol?

What cultural impacts/conflicts are created by studentification?

HYPOTHESIS:

Studentification causes conflict in Clifton.

NULL HYPOTHESIS:

Studentification does not cause conflict in Clifton.

1.2.1 Location and context

SPECIFICATION	HOW MY PROJECTS LINKS
4A.5, b. Lived experience of, and attachment to, places vary according to age, ethnicity, gender, length of residence (new migrants, students) and levels of deprivation; these in turn impact on levels of engagement.	I will be assessing whether the conflict caused by studentification if any effects culture, and social impacts like deprivation and levels of engagement.
4A.5, c. conflicts can occur among contrasting groups in communities that have different views about the priorities and strategies for regeneration, these have complex causes (lack or political engagement and representation, ethnic tensions, inequality, and lack of economic opportunity).	I will be discovering whether conflict is caused by Studentification in Clifton causes conflict between contrasting groups (students and residents, business owners etc).

MANAGEABILITY:

See my location poster figure 1.3 for the study location.

Clifton is close to the centre of Bristol. This is easily accessible by train and buses. Bristol only being a short distance away means I will be able to travel to Clifton several times to collect data for my project.

1.3 Location Poster

Both the University of Bristol (UoB) and the University of the West of England (UWE) students choose to live in Clifton, the primary influence on the area is UoB, because of its proximity. Most UoB academic departments lie in Tyndalls Park, but the Students Union and three halls of residence remain in Clifton and Beacon House in Queens Road.

(Encyclopedia Britannica, n.d.) Figure 1.3.1 map showing Bristol, UK
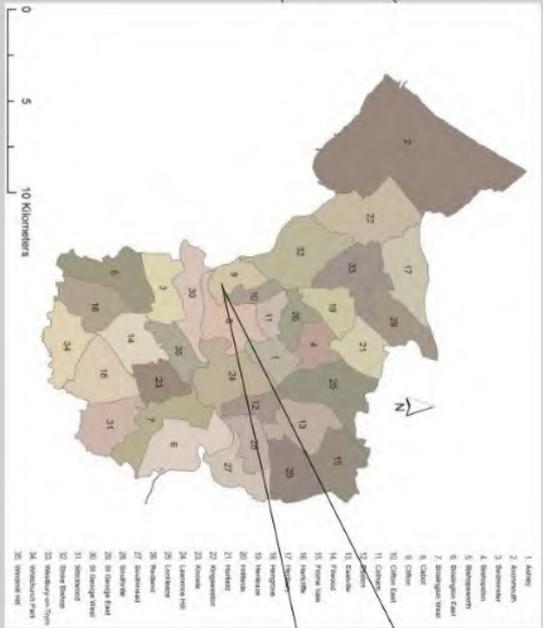
(Zivanovic, Martinez and Verplanke, 2018) Figure 1.3.2 map showing wards in Bristol (Clifton)
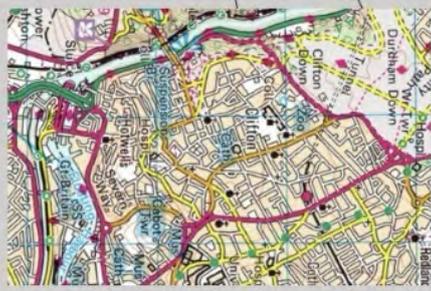
Figure 1.3.3 OS map showing Clifton, Bristol

Clifton ranges from the Avon Gorge to the top of Park Street, most of Clifton lies within a conservation area with a high proportion of listed and other period buildings. It is predominantly a residential area, with retail and leisure uses clustered in the Village.

over 50% of houses in Clifton are student HMO housing.

Encyclopedia Britannica. (n.d.). *Bristol | History, Points of Interest, & County*. [online] Available at: https://www.britannica.com/place/Bristol-England.

Zivanovic, S., Martinez, J. and Verplanke, J. (2018). Capturing and mapping quality of life using Twitter data. *GeoJournal*, 85(1), pp.237–255. doi:https://doi.org/10.1007/s10708-018-9960-6.

Methods and Data collection

2.1 Methods

Overall, I will go to the Clifton ward of Bristol twice. Within the Ward itself I will go to three locations, one known to both students and residents in the area, with the most services. This Road is called Whiteladies road. Then a Street with many student HMOs (Melrose Place/Alma Road Ave). And finally, a residential street (St Johns Road). I will go on the 30th of August to collect the majority of my primary data including: Sustainable community survey, build up environment survey, property quality survey, environmental quality survey, decibel readings and a local service survey. On St Johns Road and Melrose Place/Alma Road Ave I will complete environmental quality surveys, property quality surveys and decibel readings and on Whiteladies Road I will complete a built-up place survey, sustainable community survey, local service survey and decibel readings. These recordings will all happen between 14:00 and 16:00 when people are most likely to be out and using services and commuting. I will then revisit all locations on the 30th of September to repeat the same data collection, I will then complete this data collection, again in august when most students are still at home and once the University term has started, and students will be in their accommodation to see a difference in data. On the 30th of September I will then complete recordings between 14:00 and 16:00 to prevent deviation in the data due to various times of day.

Figure 2.1a. map showing locations in Clifton I will collect data from, green is St Johns Road (residential area). Light blue Melrose Place/Alma Road Ave (student area). Dark blue is Whiteladies road.

2.1.1 Build Up Place Survey
Primary, Qualitative

This data will be collected on (Whiteladies Road) to give an overview of the Clifton Ward (it being the main high street in Clifton). Showing the amount of open space, shops, and services available in the area available to the public and how well maintained they are.

2.1.2 Property Quality Survey
Primary, Quantitative, systematic

I will collect this data on each road with housing (Melrose Place/Alma Road Ave, St johns Road), in response to enquiry question 1, e.g., how homes have been affected by studentification. By observing every other house on each street, I will create a set of criteria which indicates the level of residential quality and graded it on a sliding scale between 0(none)-5(lots) add scores from each criteria to calculate an overall score for property quality; Closer to 0 being better.

2.1.3 Environmental Quality Survey
Primary, Quantitative, Stratified

This data will be collected on Melrose Place/Alma Road Ave and St Johns Road. This data is in response to enquiry question 3. To show how increasing numbers of students effect the environmental quality of Clifton. For example, to see if between the different residential streets if there was more or less litter depending on the number of students living there. I will create a set of criteria to assess the environmental quality of the areas and rated them on a sliding scale from –2–2 with -2 being low quality and 2 being high quality and then added each criteria to get an overall score.

2.1.4 sustainable community survey
Primary, Quantitative/Qualitative, Stratified

This sample will be taken on Whiteladies road, where the whole high street will be considered. It will be completed to show how studentification has affected the high street. If it has economically had a positive impact bringing in more services or changing the community focus of residents. I will create a set of categories and subcategories that apply to all enquiry questions. Transport, Services, Environment, Economy, Culture, Community. Within each category the criteria will be rated on a sliding scale from –2–2 with -2 being least sustainable and 2 being most sustainable. Which are based on my opinion. This was then be added up overall to, in each category, get a sustainable community score (overall) for Clifton and how well each category scored.

2.1.5 Decibel reading
Primary, Quantitative, Stratified

These decibel readings will be collected within the same hour for each location to prevent differences in noise levels due to separate times of day e.g., rush hour, more cars more noise pollution. In each location I will stand in the middle of each street. Within 5 minutes I will take 3 readings for each location and calculate an average. This data will be collected in response to enquiry question 1, what are the social impacts of studentification.

2.1.6 local service survey

Primary, Quantitative, stratified

This data is in response to enquiry question 2. It will show what positive services studentification brings to the area such as more convenience shops, coffee shops and clothing stores. I will make a table with different building categories, including empty buildings. I will then walk down Whiteladies road slowly making a tally in each box for the amount of each building on the high street.

2.1.7 Land use map

Primary, Quantitative, Qualitative

This data is in response to enquiry question 2. It will be collected from whiteladies road. I will use it to visually represent the proportion of different services/shops along the main street in Clifton I will then use the data to calculate the proportion of different shops in Clifton.

2.1.8 Footfall survey

Primary, Quantitative, systematic

Using the same categories from (**2.1.6 local service survey**) I will go to one place from each. In the time span of 5 minutes, I will tally the amount of people to enter the shop and amount of people who walk past. This shows roughly how successful each type of shop/service is in Clifton.

2.1.9 Litter count

Primary, quantitative, systematic, stratified

Along each street, Melrose Place/Alma Road Ave, and St Johns Road every five metres I will stop and then tally the amount of litter on the ground (repeat 10 times for each street). This will include only plastic and glass waste and not include leaves or other organic litter. I will then complete a student's t test to compare the amount of litter between a student area and a residential area.

2.1.10 Rent price comparison

Secondary, Quantitative, Systematic

I will use ([Houses to Rent | Property to Rent | Rent House - Allen & Harris (allenandharris.co.uk)](allenandharris.co.uk)) and ([Properties To Rent in Bristol | Rightmove)](rightmove) to view and compare different rent and housing prices on Melrose place/Alma Road Ave and St Johns Road. This is in response to how studentification has brought economic conflicts to Clifton. Every other house price I find for each street I will then use to calculate an average rent price for that street. Which I will then compare to the national average.

2.1.11 Income/Job category

Secondary, Qualitative

I will use ([Census 2021 results - Census 2021)](census) to view recent census data that will show the average income in Clifton more recently and before to show the increased amount of studentification. I will also use the census data to find the primary job sector of the area. A lower average income will suggest that studentification has caused economic conflicts.

2.1.12 Crime Data

Secondary, Quantitative

I will use (Home | data.police.uk) to gather the amount of anti-social behaviour related crimes. This is in response to enquiry question one, social conflicts, additionally I will find the difference in types and number of crimes since the expansion of Bristol University.

2.1.13 Questionnaire

Primary, Qualitative, convenience

To get the views of the students and residents living in Clifton I will make a 20 question, questionnaire about how effective services is in Clifton and whether a large number of students can lead to less engagement. This helped to answer if there were any cultural/social conflicts caused. I will email the questionnaire to Bristol Uni and UWE, as well as uploading it to spotted in Bristol, making it a sample of convenience as I cannot control who will answer my questions.

2.2 Utility and validity table

Method	Utility	Validity
Questionnaire	A questionnaire is useful because it allows me to see how both the residents and students feel about the changes occurring in Clifton since the increased studentification.	Due to the subjective nature of a questionnaire the data is based off people's opinions, therefore the data could change if I were to do complete in again. Along with this if I were to do it again, I would need a larger number of people to complete it as the small sample size I had meant the questionnaire was not very valid.
Local service survey	This method is useful as it allows me to gain an understanding of how Clifton is being changed by studentification.	This method would be valid because the high street would rarely change all its shops, and the type of shops/services available would give a good insight into what is used the most.
Sustainable community survey	This is helpful for an overall idea of how studentification is effecting the ward of Clifton.	This method may not be the most valid as data was collected only on one high street in Clifton and is not necessarily representative of the whole ward.
House/Rent price comparison	This method is useful because I can see how the prices differ between student and residential area and how the presence of students has changed the prices over time.	This method is valid because although house prices do fluctuate in the period conducting my research, they will not have changed significantly. Meaning comparison can still happen and the data remains valid.
Built up place survey	This method will provide an overview of the services and building available in Clifton and the quality of these services. How well maintained they are.	This method is partly based on opinion and so data may be representative of the area compared to others and not mediated effectively.
Property quality survey	This is a useful method because it shows How the presence of students effect the appearance of the housing and the average standard of living In Clifton.	This method is valid because the substantial differences between the residential and student housing areas are identified. And it is clear how students effect areas.
Footfall Survey	This is useful because it shows the number of pedestrians entering and leaving different types of services and shops within a certain time.	If I were to do this again the result would be different as it is reliant on the number of pedestrians that day, so because this cannot be consistently re-created, there is an argument for it not being valid.

Litter count	This is useful to gain an idea of how the environment can be altered by the presence of students, and if the amount of litter in Clifton increases during university term time.	This data could be invalid because litter could be left by members of the community that are not students and the amount of litter at certain times is random, a stats test will be carried out to identify whether the amount of litter has a correlation to the number of students in the area and will increase validity.
Environmental quality survey	This method is useful because I can subjectively decide on the quality of the environment and whether Students effect the environmental quality of Clifton	This method could be invalid because the environment is constantly being changed my several varied factors that might not all be due to Students in the area. If I did it again the results would be different. Making this method potentially invalid.
Crime Data	This data will show whether antisocial behaviour within Clifton increases after the influx of students during term time, and if this causes social conflicts for Bristol.	Crime data is valid as it is taken from the official Uk police website, however, may not be valid because crimes and types of crimes can fluctuate due to several varied factors.
Decibel readings	This is useful because I can measure the noise pollution inflicted on both areas buy students, and whether it is significantly different on different days.	If recording this again the readings would be different because the level of noise pollution would not remain consistent, and the readings would be similar but different, I did complete all readings within the same hour but different days and months meaning this could alter the levels of pollution and this could make data invalid.
Income/Job category	This will help to show the composition of students to residents in Clifton and if many people have a smaller income than the average.	Overall, this data will be valid because it is taken from the government census website meaning it is up to date and reliable.
Land use map	This data will allow be to see how Clifton has been changed by studentification and what services are favoured by students.	Overall, this data will be valid as I will be using a current map of the area and walking down the street to record what shops are there on the dates, I visit Clifton.

2.3 Risk Assessment and Ethical Issues

Hazard	Risk	Precaution	Risk level
2.3.1 Train to Bristol	Getting lost or missing the train.	Organizing timings before going, making sure to buy the right ticket.	Low
2.3.2 Walking on roads	I will be collecting my data in urban areas where traffic can be dangerous, and cause injury.	Look both ways before crossing and avoid main roads.	Mild
2.3.3 Working independently	Being alone whilst collecting data could make me vulnerable to crime, as I may be seen as an easy target.	Make sure to collect data at busy times of the day in safe areas, have a charged phone in case of emergency. Collect data with a friend.	Low
2.3.4 Weather changes	Extreme heat and or wind can be dangerous and can cause injury if not prepared.	Bring sun cream and a coat to be ready for a change.	Low
2.3.5 Unknown areas	As I will be getting the bus from the train station to Clifton there is a chance of Ending up in the wrong part of Bristol (getting lost).	I will research Bus routes and journeys before going.	Low

Ethical Statement:

Confidentiality and Privacy: Any data I collect that may reveal any personal information will be kept private. On my online questionnaire all names and emails will remain anonymous, this will allow people to feel as though they can express their opinions freely. Furthermore, whilst collecting my data and walking around residential areas I will make sure to avoid going onto people's driveways to respect homeowners' privacy.

Environment: As I walk around Bristol, I will ensure that I leave the areas the same or better than I found them, for example not dropping litter and picking it up. Additionally, leaving green spaces undisturbed and not trampling flower beds or bushes.

Researcher Behavior: When performing surveys, I need to remember to take a neutral stance so there is no bias in any of my data. Moreover, I need to retain a professional role by respecting people's opinions and their right to not participate if they do not wish to.

Data Representation, Analysis, Interpretation

3.1 What are the social conflicts caused by studentification in Clifton, Bristol?

3.1.1 compound bar chart showing increase in average noise levels.

	Melrose Place/Alma Rd Ave	St Johns Road
■ mean (dB) 30/09	77.33	61
■ mean (dB) on 30/08	72	57.67

■ mean (dB) 30/09   ■ mean (dB) on 30/08
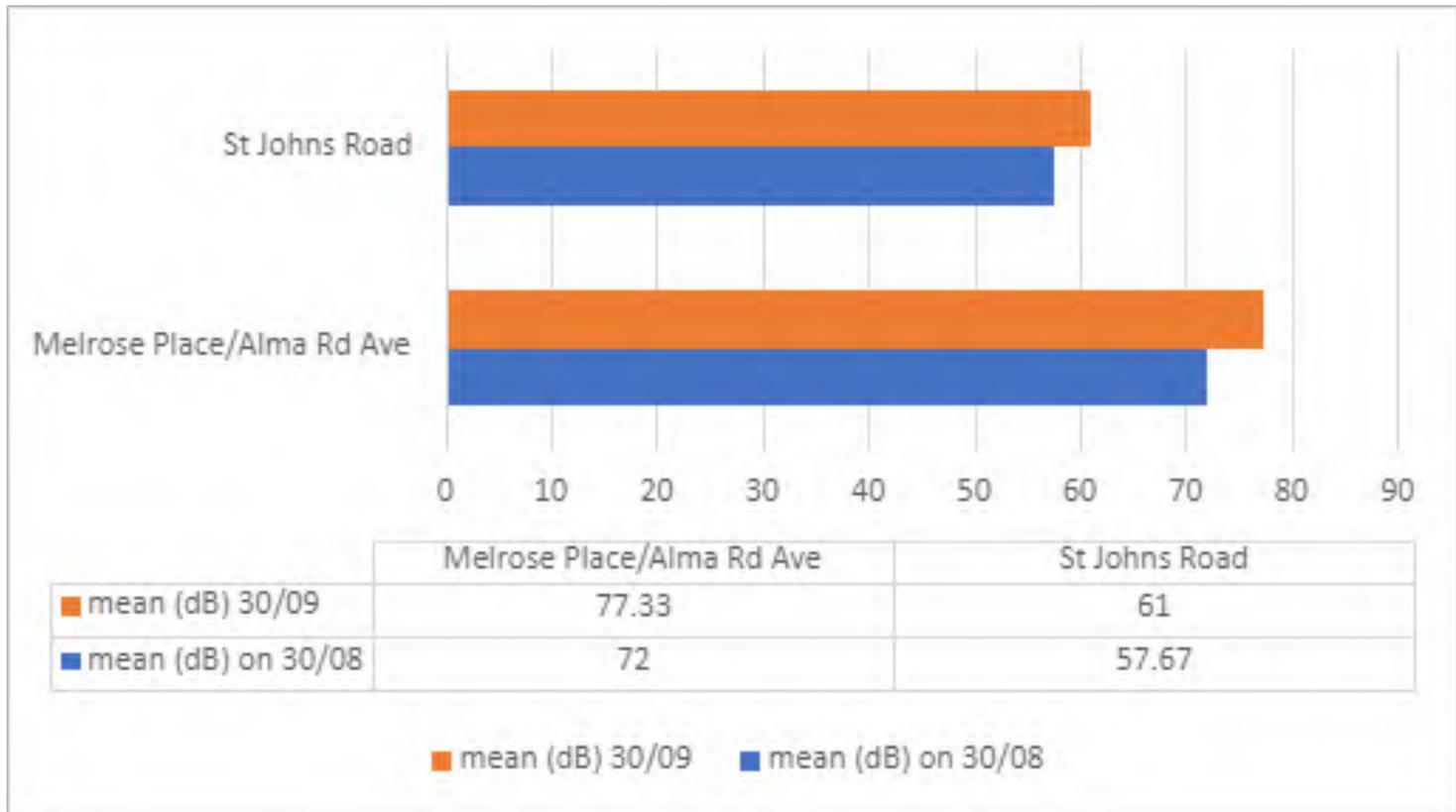
Above highlights the difference in noise levels between a highly studentified housing street and a residential street both in Clifton. In Bristol the university term started on the 25th of September 2023. Before this date there will be a significantly lower number of students in Clifton, in both locations noise levels before the term began were lower. In particular Melrose place/Alma Rd Ave had on the 30/08, a mean dB reading of 72.00 this increased by 7.5%, and on the 30/09 the mean reading was 77.33; a percentage increase suggests that the number of students in Clifton has a direct correlation with how noisy the area is. St Johns road's initial average reading was 57.67 dB and post uni term beginning was 61 decibels (5.7%increse), this is overall quieter than Melrose place/Alma Rd Ave however this is expected as there are less student HMO's, houses owned by letting agents and, it's further away from student halls of residence. An increase in noise levels caused by large amounts of Students living intertwined with longer term residents can cause noise complaints (The Noise Pages, n.d.) shows that the university of Bristol received 161 noise complaints between 2020-21. High noise levels lead to tensions between residents and students in the area.

3.1.2 radar graph showing the property quality in Clifton.

melrose place / Alma road Ave: Property quality

30/08/23
30/09/23

0 - 5
0 (a little)
5 (a lot)

peeling paint
rotting wood
visible cracks in walls
damage to roof
broken glass
damage to walls
damage to gutters

St. Johns Road : Property Quality
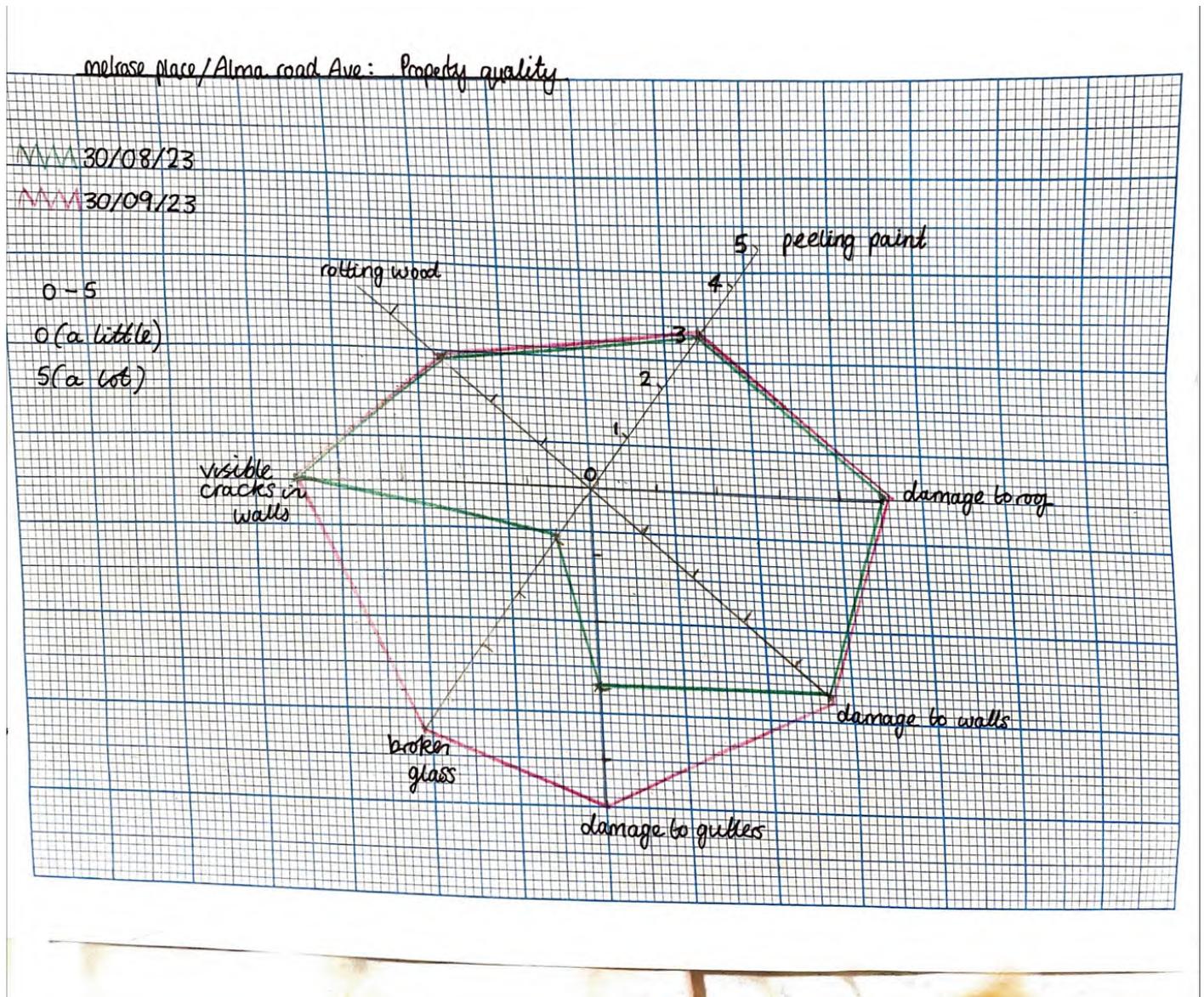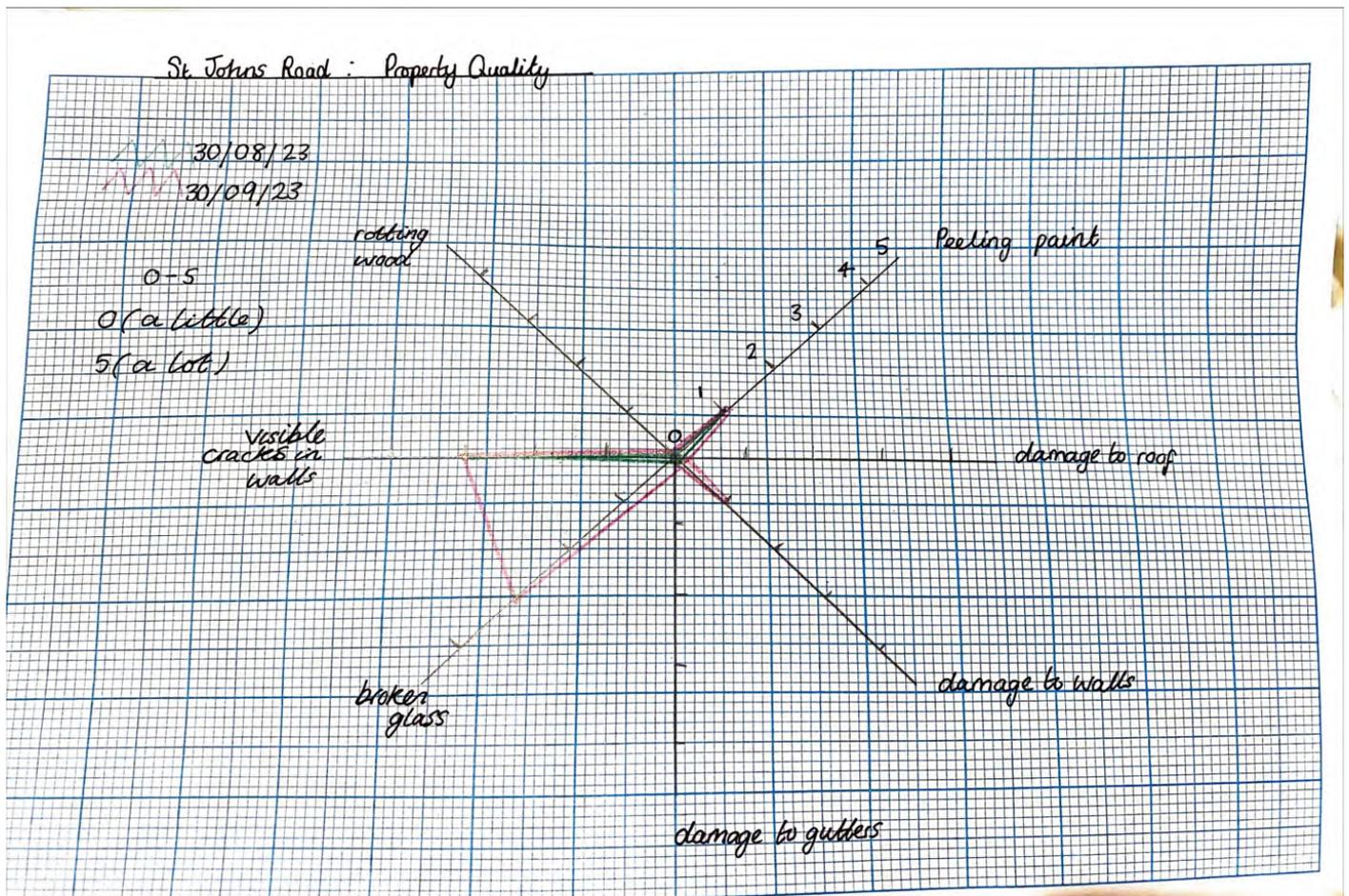
The property quality radar graphs illustrate how the presence of students impacts the condition of the houses around Clifton. Melrose place/ Alma Rd Ave had a consistently poor property quality compared with St Johns Road. Melrose place/ Alma Rd Ave on the 30th august had some damage to property compared with the 30th of September, which had a lot of damage to property. This could be due to time, but it is more likely to do with the student housing on this street. Due to the fact the housing belongs to landlords who can be reluctant and unlikely to spend money on repairing walls, gutters and wood regularly meaning the property can appear more dishevelled. Also, an influx in the number of uni students living in Bristol since the 25th of September (uni term starting date) Could affect the property quality, students have a shorter residence time in the area and are less likely to care about the quality of the environment around them, maintaining their housing or accommodation is not their top priority and so overall quality falls dramatically. As a result of Studentification in Clifton, St Johns Road can also be seen to be affected after the uni term beginning with a 60% increase of broken glass.

3.1.3 sustainable community survey showing overall social sustainability of Clifton.

Most Sustainable	Good +2	Ok +1	Average 0	Poor -1	Bad -2	Least sustainable
Wide range of activities				*		No activities to do
Plenty of Places to meet			*			No Places to meet
Low crime rate			*			High crime rate
100% affordable homes				*		No affordable homes

Overall total for Clifton= –2

Lowest score possible= -8

Highest score possible= +8

Average score= 0

And so, Clifton community is 25% worse than average.

The data above was collected initially on the 30th of August and then the 30th of September and ended up having no differences. Clifton's overall score for how sustainable its community was, was –2. The lowest that the community could have scored was –8 and an average score would be 0 this then makes Clifton 25% worse than an average community. Since the expansion of UoB in 2010 Clifton has become a ward with a lot of students. This could show that not only during term time does studentification effect Clifton but also, that Studentification can have long term effects and conflicts on communities.

3.1.4 crime data showing Increase in anti-social behaviour and other related crimes.

Fig.3.1.4a

Crime per Month
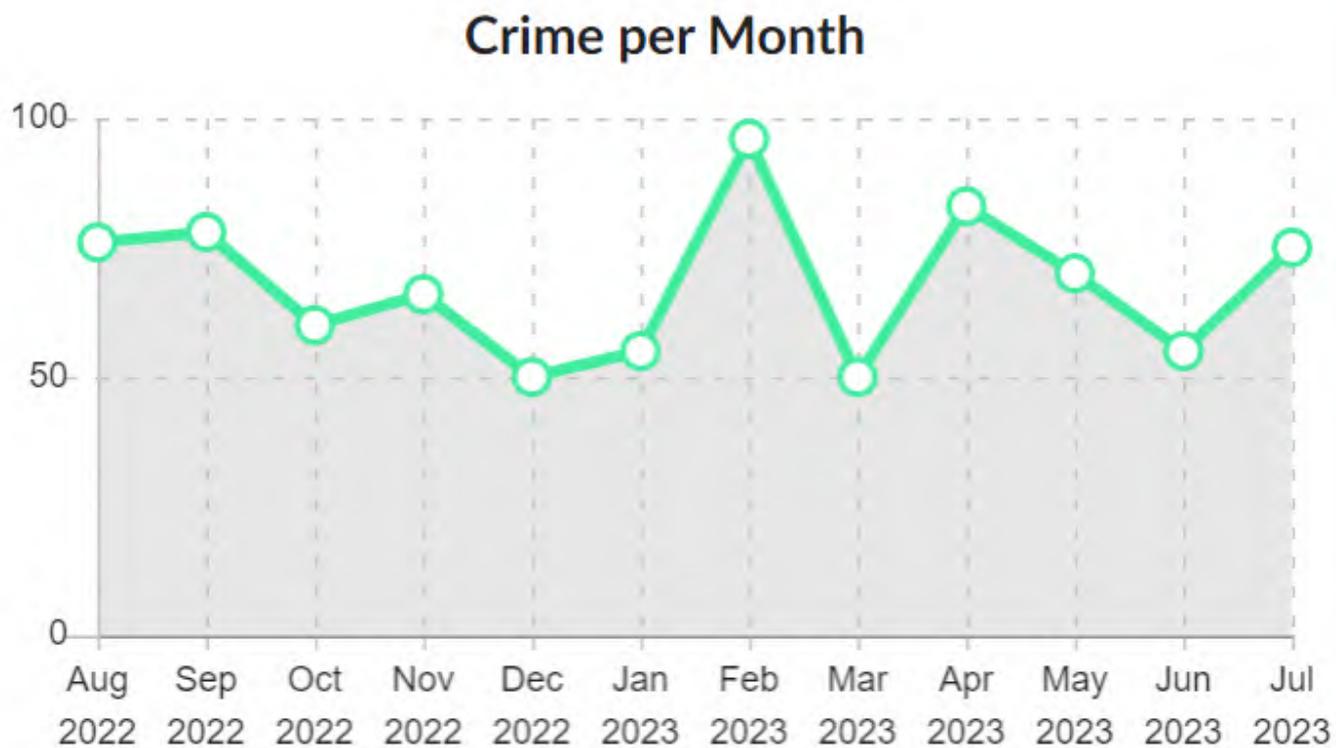
Fig.3.1.4b

Vehicle crime	16
Violence and sexual offences	13
Anti-social behaviour	9
Public order	9

Month	Total	Percentage
Aug 2022	76	9.3%
Sep 2022	78	9.6%

Fig.3.1.4c

Fig,3.1.4a,3.1.4b,3.1.4c (Police.uk, 2019) show the amount of antisocial and other related crimes in Clifton. Fig.3.1.4a highlights the increase of crime from august 2022 to September 2022 (an increase of 2.6%). This is also in accordance with university beginning in September and more Students moving to Cliftons HMO's and Student Halls. Fig.3.1.4b shows the composition of anti-social related crimes in July of 2023, this includes vehicle crime, violence and sexual offences, anti-social behaviour, and public order. There could be an increase in these types of crimes during uni term time as more students are in the area. Statistics show that younger people with lower engagement are more likely to commit these types of crimes. Fig.3.1.4c allows insight into the total amount of crimes in the summer of 2022 compared to the start of the university term in 2022. Overall, there is an increase in these crimes. Which to residents could make them more resentful towards student accommodation and letting agents causing there to be and increased amount of tension between the two players in the Clifton ward.

3.2 What are the economic conflicts caused by studentification in Clifton Bristol?

3.2.1 stacked bar graph showing the amount of people using different services in Clifton.

30/08/23:
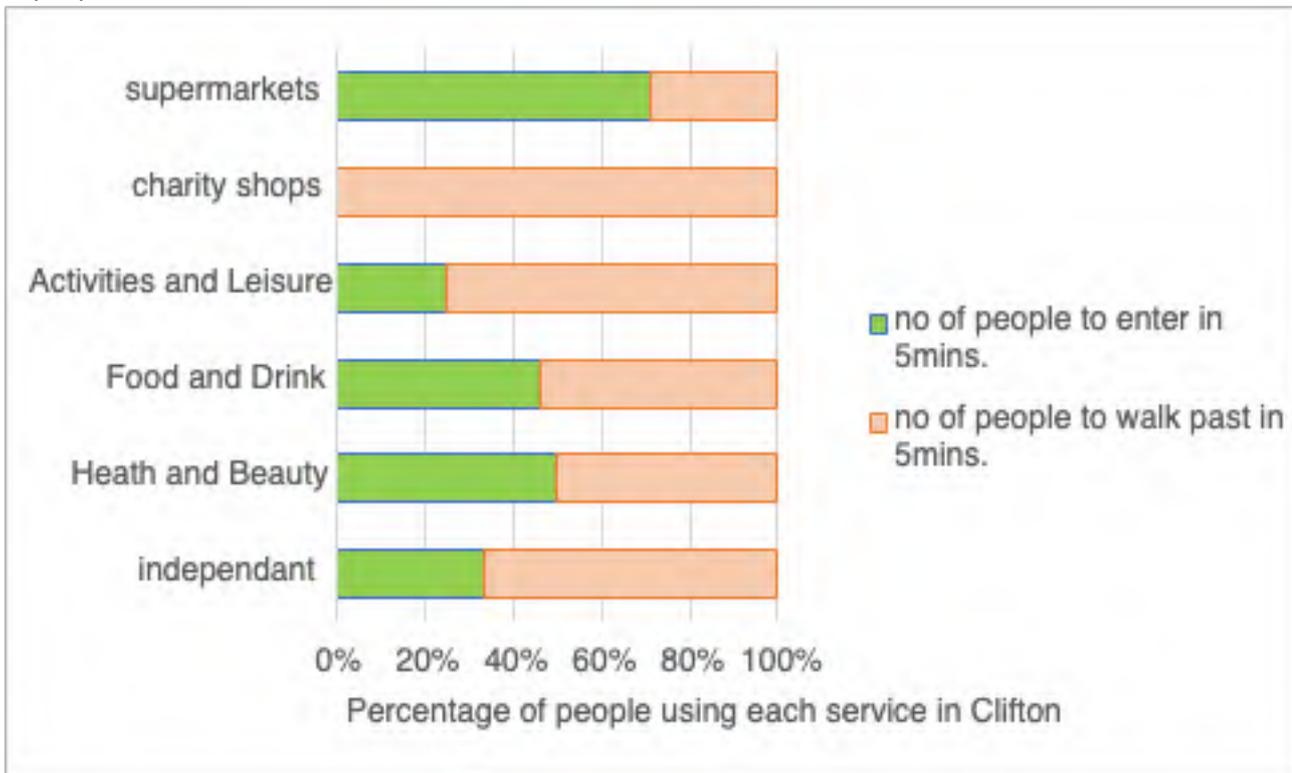
30/09/23:
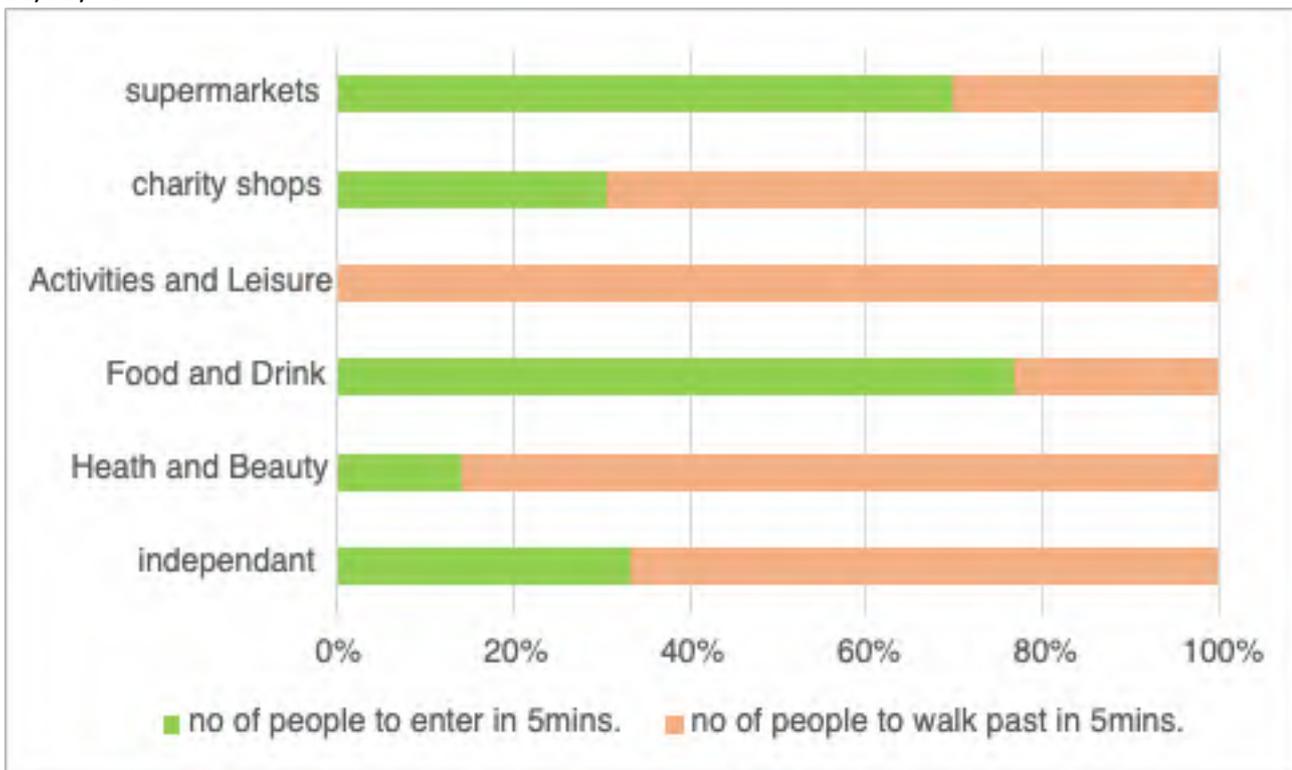
The graphs above illustrate the percentage of people utilising the services available in Clifton. The First graph taken from the data collected from the 30th of august 2023, shows that on average 67.86% of people who walk past these services do not enter. During this period there are less students living in Clifton. Studentification has caused the high street to change its shops and tailor them more towards students. These shops might not appeal to the residents and so less people are likely to use them. The second graph taken from data collected on the 30th of September 2023 shows an increase in the amount of people using shops hat fall into the categories of supermarkets and food and drink. Most students in September are in their accommodation meaning that amongst student's convenience shops are the most popular see 3.2.3 showing that the greatest number of shops in Clifton were food and drink related.

3.2.2 Land use map showing locations of different shops/services on the high-street.
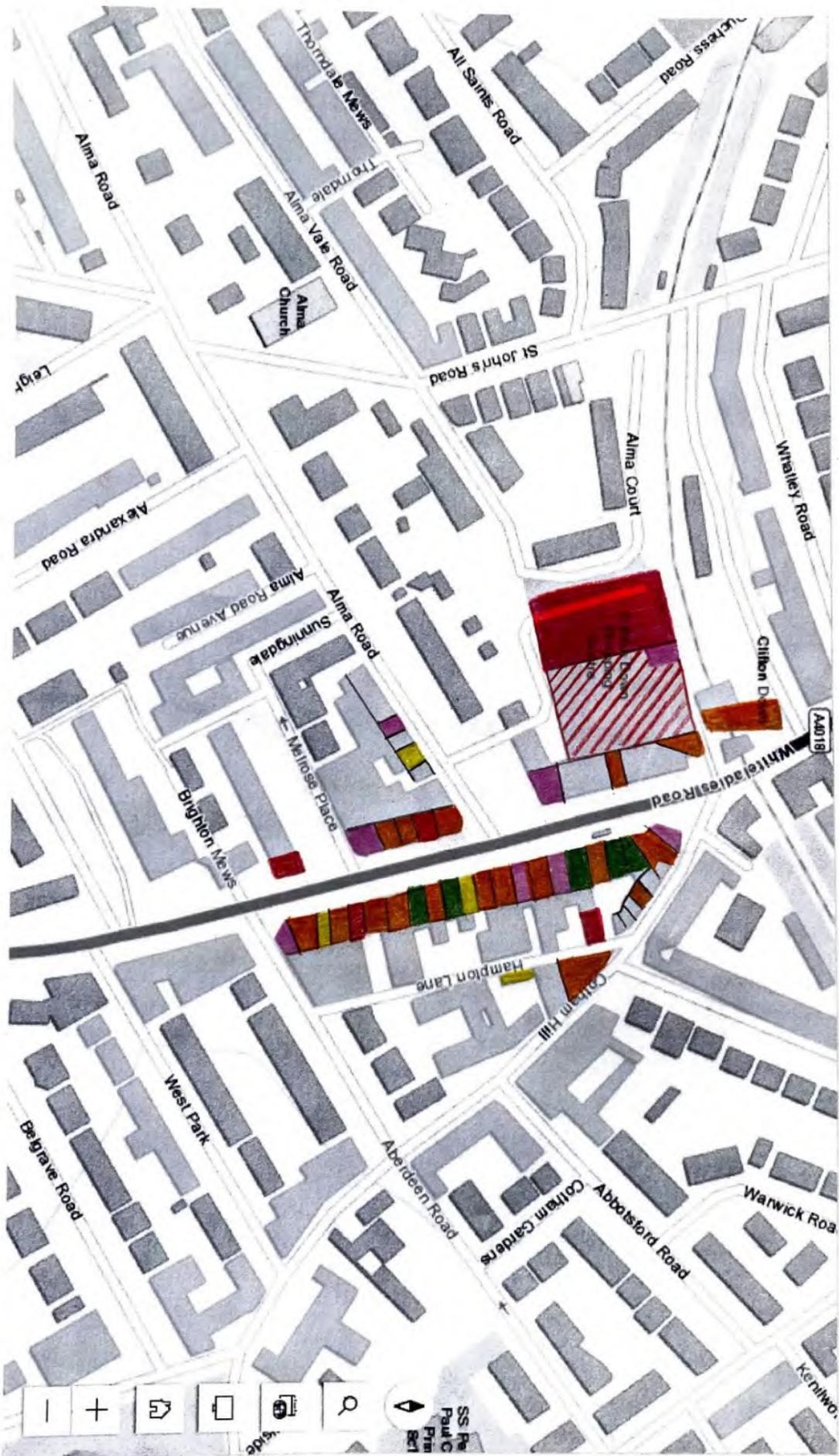
retail shops :
food and drink :
leisure (activities) :

empty buildings :
services (medical etc ..) :

The above land use map shows that the proportion of food and drink shops to retail shops is 3:1. This could show that the high-street values student convenience over individuality and creating a distinct character for Clifton to be identified by. This lack of personality means that Whiteladies road is not differentiated from other high-streets and has no attraction to the public, less people will come to Whiteladies road to shop, and this will then cause economic losses for the people in Clifton that do run independent businesses, causing conflict within the community, and making Clifton less economically successful.

3.2.3 pictograph showing the number of each different type of shop on the Clifton high-street.

Whiteladies Road: local Services (number of each type of Service/shop):
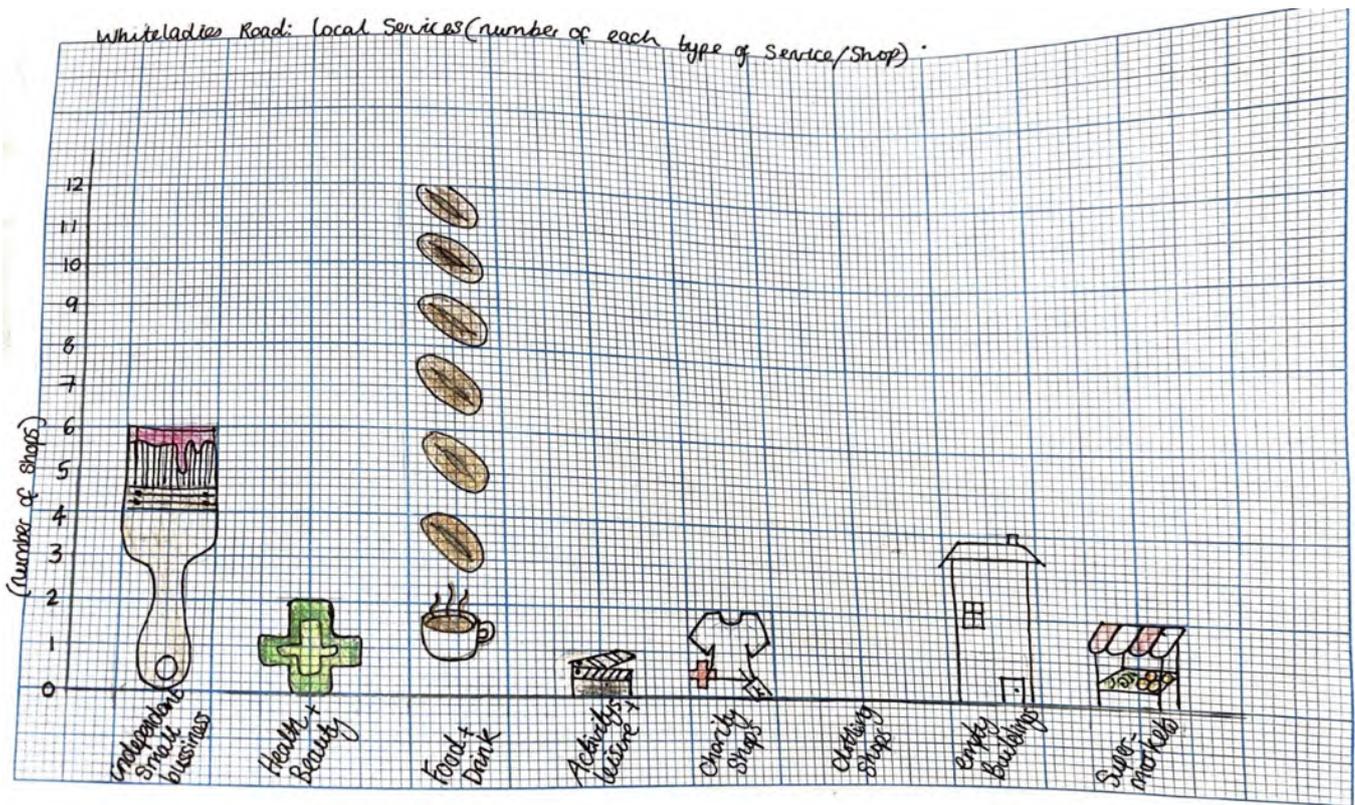
This data was collected twice but was the same. It shows that Food and Drink were the type of service with the most shops followed by independent businesses. Additionally, a high proportion of empty buildings suggests that studentification is reducing the number of independent shops and charity shops. This could be due to students wanting affordability and convenience. And travelling to the city centre for clothing shops and leisure activities.

3.2.4 Data showing Rent price comparison and housing composition.

Melrose place/ Alma Road Ave

Fig.3.2.4a

Household Composition

This area contains a mixture of household compositions, as detailed below. No single type accounts for more than 50% of the households.

Household Composition	
1 Person Household	46
Family Household	50
Other Household	41
Total	**137**
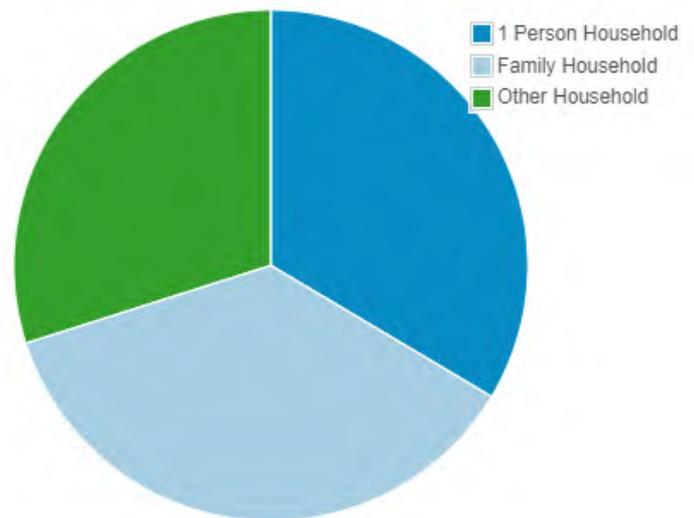
Fig.3.2.4b

Housing Tenure

The area containing Alma Road Avenue, Bristol contains a higher-than-average level of rented housing (excluding social housing) - 67% of household spaces. This contrasts with the national average of just over 20%.

Housing Tenure	
Owned Outright	18
Owned with Mortgage	23
Shared Ownership	0
Rented: From Council	0
Rented: Other Social	5
Rented: Private Landlord *inc. letting agents*	90
Rented: Other	3
Rent Free	0
Total	**139**
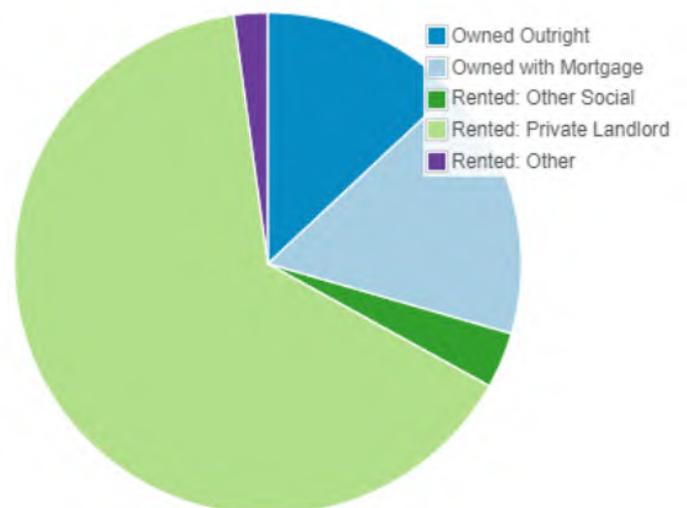
38

Housing Tenure

The area containing St. Johns Mews, St. Johns Road, Clifton, Bristol contains a higher-than-average level of rented housing (excluding social housing) - 44% of household spaces. This contrasts with the national average of just over 20%.

Housing Tenure

Owned Outright	33
Owned with Mortgage	33
Shared Ownership	1
Rented: From Council	1
Rented: Other Social	1
Rented: Private Landlord *inc. letting agents*	52
Rented: Other	3
Rent Free	0
Total	**124**

- Owned Outright
- Owned with Mortgage
- Shared Ownership
- Rented: From Council
- Rented: Other Social
- Rented: Private Landlord
- Rented: Other
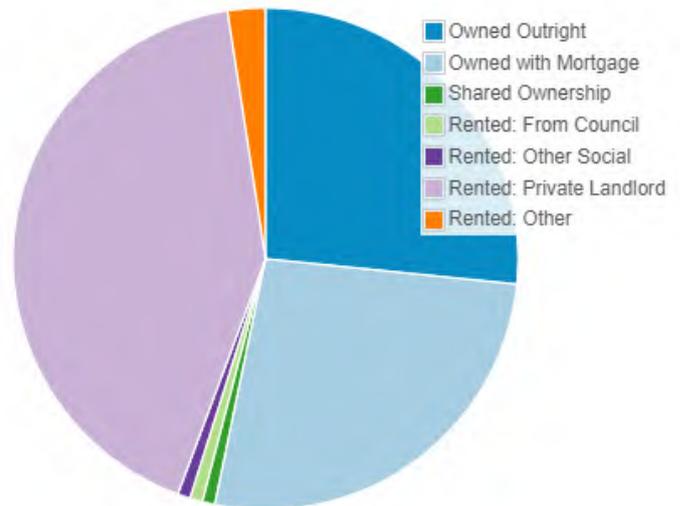
Fig 3.2.4d

Household Composition

The area containing St. Johns Mews, St. Johns Road, Clifton, Bristol consists predominantly of single-family households, which is more common in suburban areas.

Household Composition

1 Person Household	27
Family Household	65
Other Household	32
Total	**124**

- 1 Person Household
- Family Household
- Other Household

39
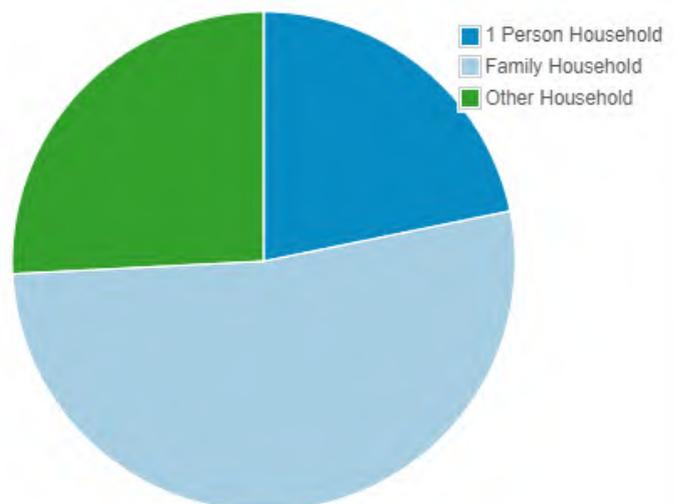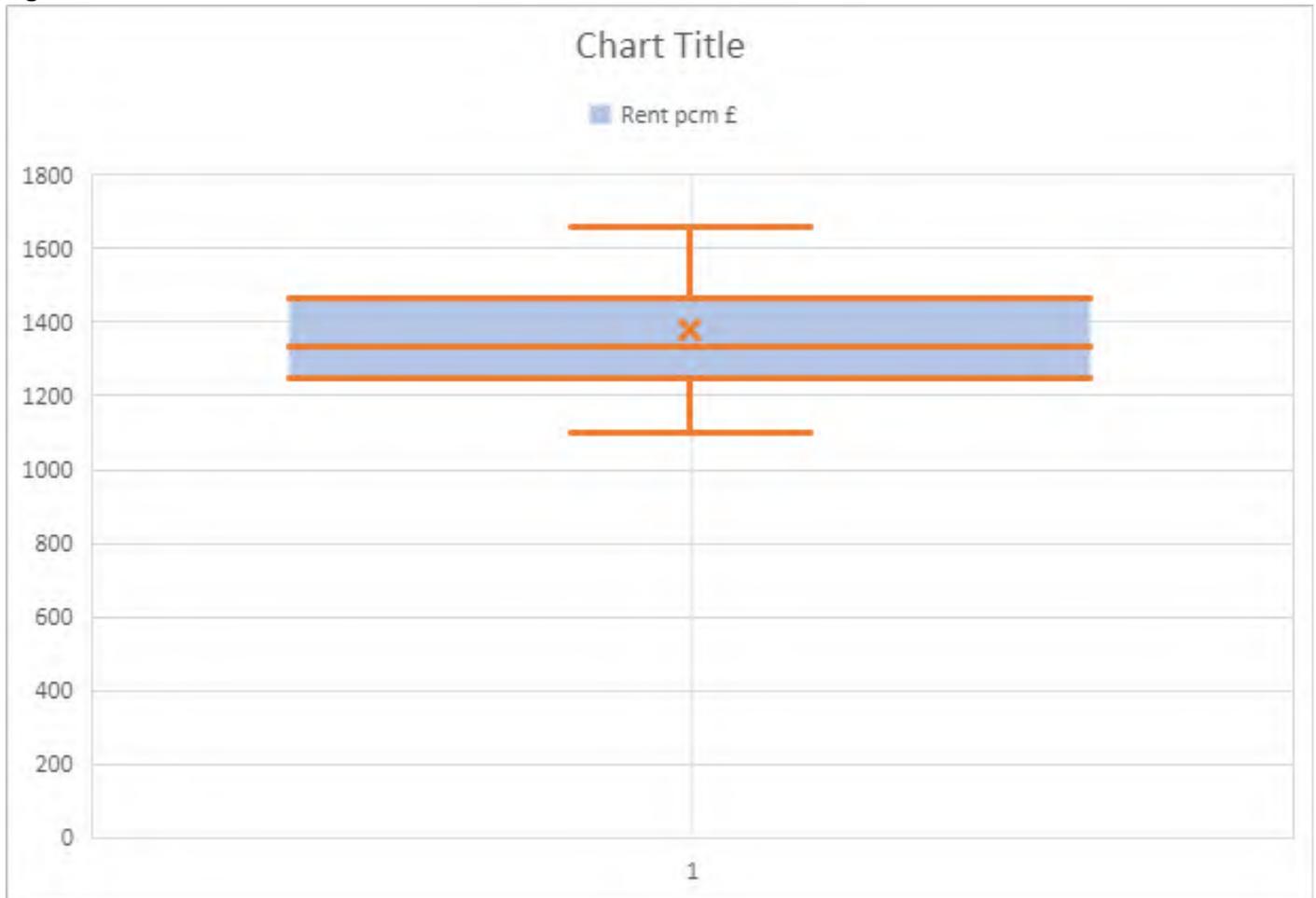
Fig.3.2.4e

The graphs above show the how the housing composition and tenure differ between both Melrose place Avenue/Alma Road Ave and St john's road. Fig 3.2.4a and Fig 3.2.4b (StreetCheck, n.d.) show that in Melrose place Avenue/Alma Road Ave there are several 'other households' which includes student housing and privately rented housing, letting agents. This student housing makes up a large part of Melrose place/Alma Road Ave. This takes away houses that could be used for families, landlords convert 3-bedroom homes into 5- or 6-bedroom homes in order to make more money. Fig.3.2.4c and 3.2.4d (StreetCheck, n.d.) show the same For St Johns Road however for St Johns Road other households make up 25% of the homes showing that it is less effected by studentification than Melrose Place/Alma Road Ave. Figure 3.2.4e (Rightmove, 2023) is a box blot which shows that the average rent price for Clifton is around 1,345 per Calendar month. The reason this could be so high is that landlords aim there housing at a joint lease where it will be split between several students. This causes implications for residents moving into the area or in the area as they can no longer afford to live in the area, in turn this causes more students to move to Clifton. Large range in rent price suggests there are several different letting companies and landlords renting houses to students.

3.3 What are the environmental conflicts of Studentification?

3.3.1 sustainable community survey showing overall environmental sustainability of Clifton. (environmental)

Most Sustainable	Good +2	Ok +1	Average 0	Poor -1	Bad -2	Least sustainable
Good amount of greenery		*				No green spaces
Unpolluted air			*			Polluted air
Clean, litter free streets				*		Dirty, littered streets
Easy access to recycling	*					No access to recycling

Overall total for Clifton= +2

Lowest score possible= -8

Highest score possible= +8

Average score= 0

And so, Clifton community is 25% better than average for environmental quality.

Overall, Clifton is 25% better than average for how environmentally sustainable it is. There is a large range in data meaning in some categories it scores less than average, such as amount of litter. This could be due to an influx of students and shorter-term residents who have a lower engagement, meaning they care less about their environment and community and are more likely to litter. This overall positive environmental quality could be due to the city of Bristol council knowing about the increased number of students and putting more funding into recycling centres and home recycling to try and decrease poor environmental quality. To try and combat air pollution caused by larger number of people in Clifton, Bristol has implemented a clean air zone, to reduce emissions and meet government targets quickly. (Bristol City Council, n.d.). This Displays that there are environmental conflicts caused by studentification, but they can be helped by providing green spaces, fines on emissions and access to recycling.

Melrose place/Alma Road Ave:
30/08/23
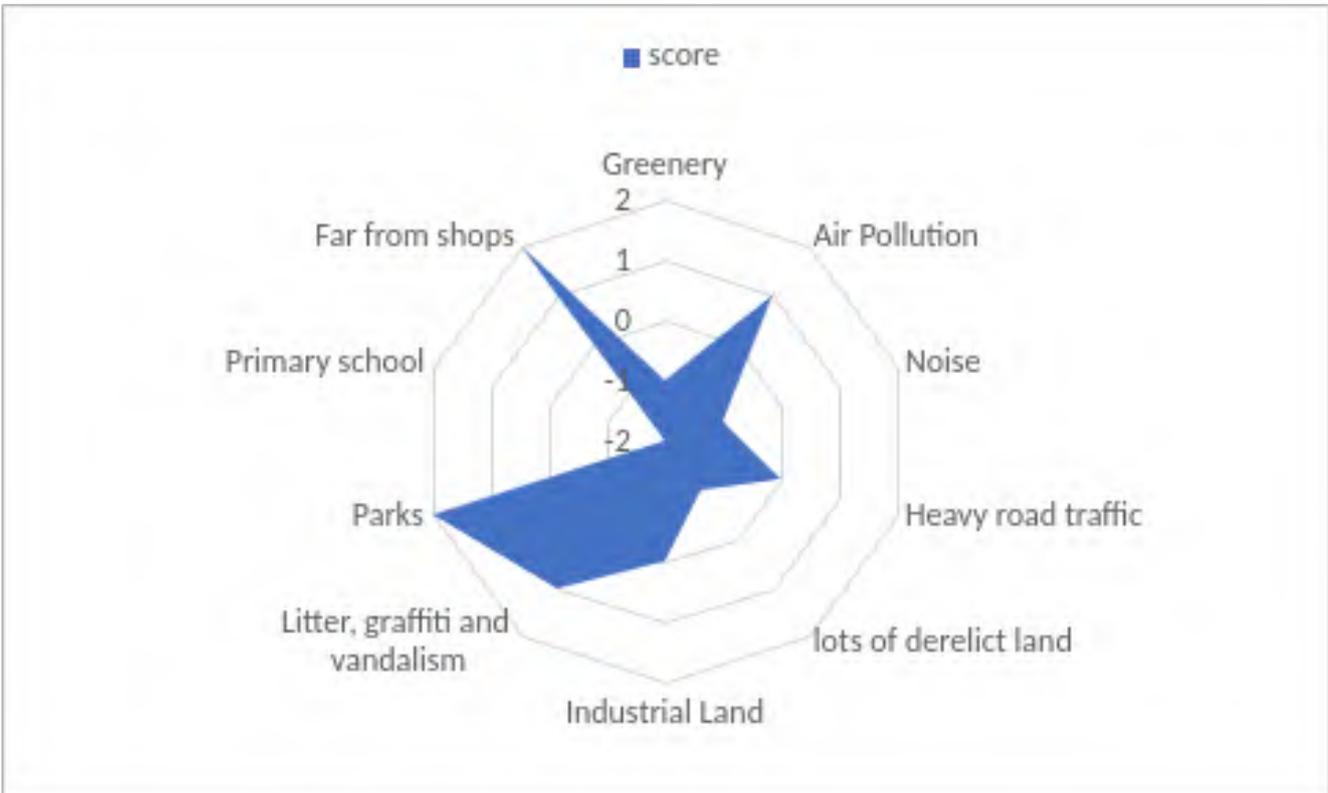
St Johns Road:
30/08/23
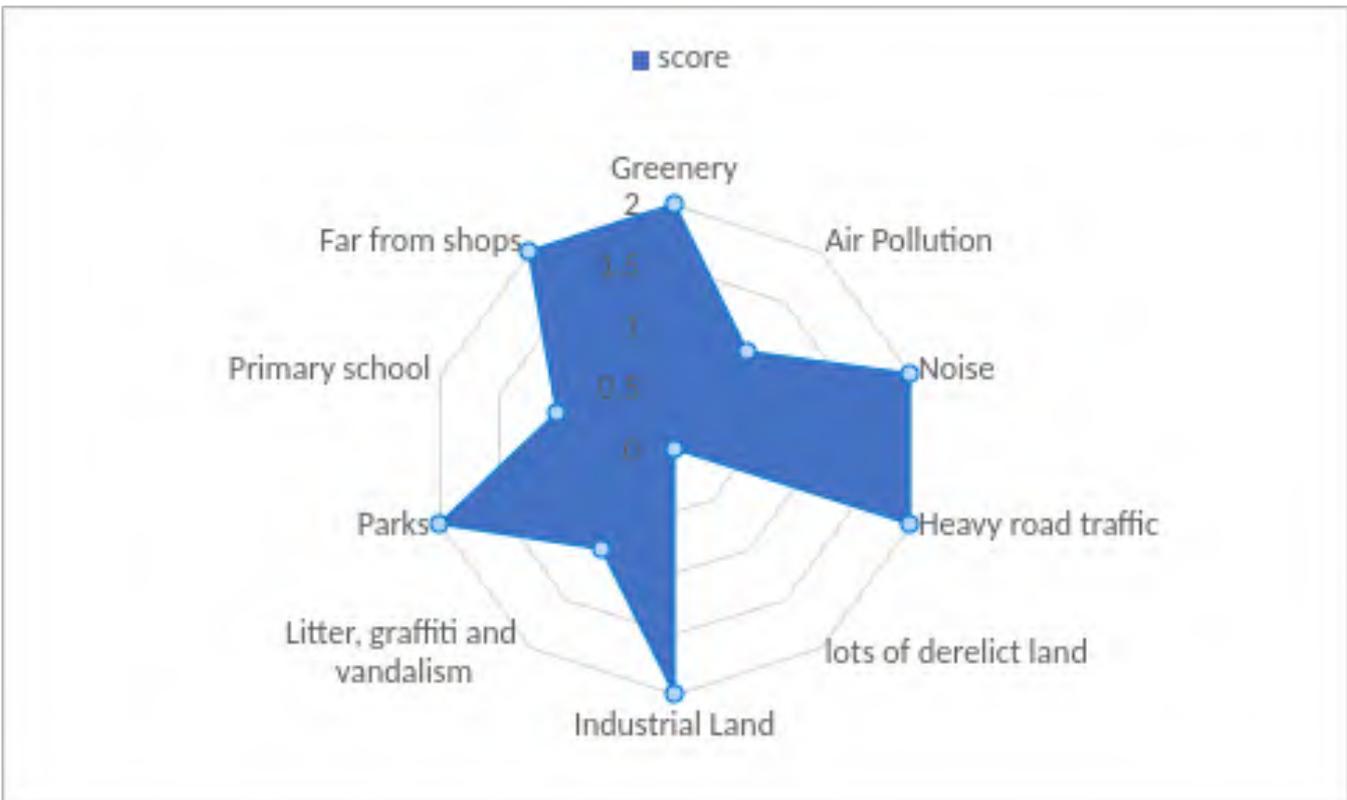
Melrose place/Alma Road Ave:
30/09/23

St Johns Road
30/08/23

3.3.2 shows the difference in environmental sustainability within the Clifton Ward, collected during the summer and then again during the uni term. Data collected in the summer (30/08/23) shows that environmental quality for both locations is 10% better than the overall environmental quality when the uni term has begun. This is due to the higher numbers of students in the area affecting litter counts and vandalising the local environment. Melrose place/Alma Road Ave is on both dates worse than St Johns, because Melrose place/Alma Road is a studentified street with lots of rented and on lease properties, Students who live there are either away for the summer and are not there to use recycling facilities or maintain the environmental quality around their homes, or landlords who own the properties care less about the surrounding area. Additionally, students who have a short residence time in Clifton will have a lower environmental priority. In term time this is escalated by more students in the area that produce more rubbish, they may not be familiar with recycling systems for the area and so environmental quality will worsen. This is the opposite for St Johns Road where more houses are privately owned, and residents live there all year round. However, studentification seems to increase access to green spaces and parks, as students take up a large population of Clifton. The council create parks and green spaces, so they feel they have places to meet and enjoy. This Will have positive affects for the community, but environmental conflicts are still created by litter and vandalism.

3.3.3 images showing litter and graffiti in student areas.
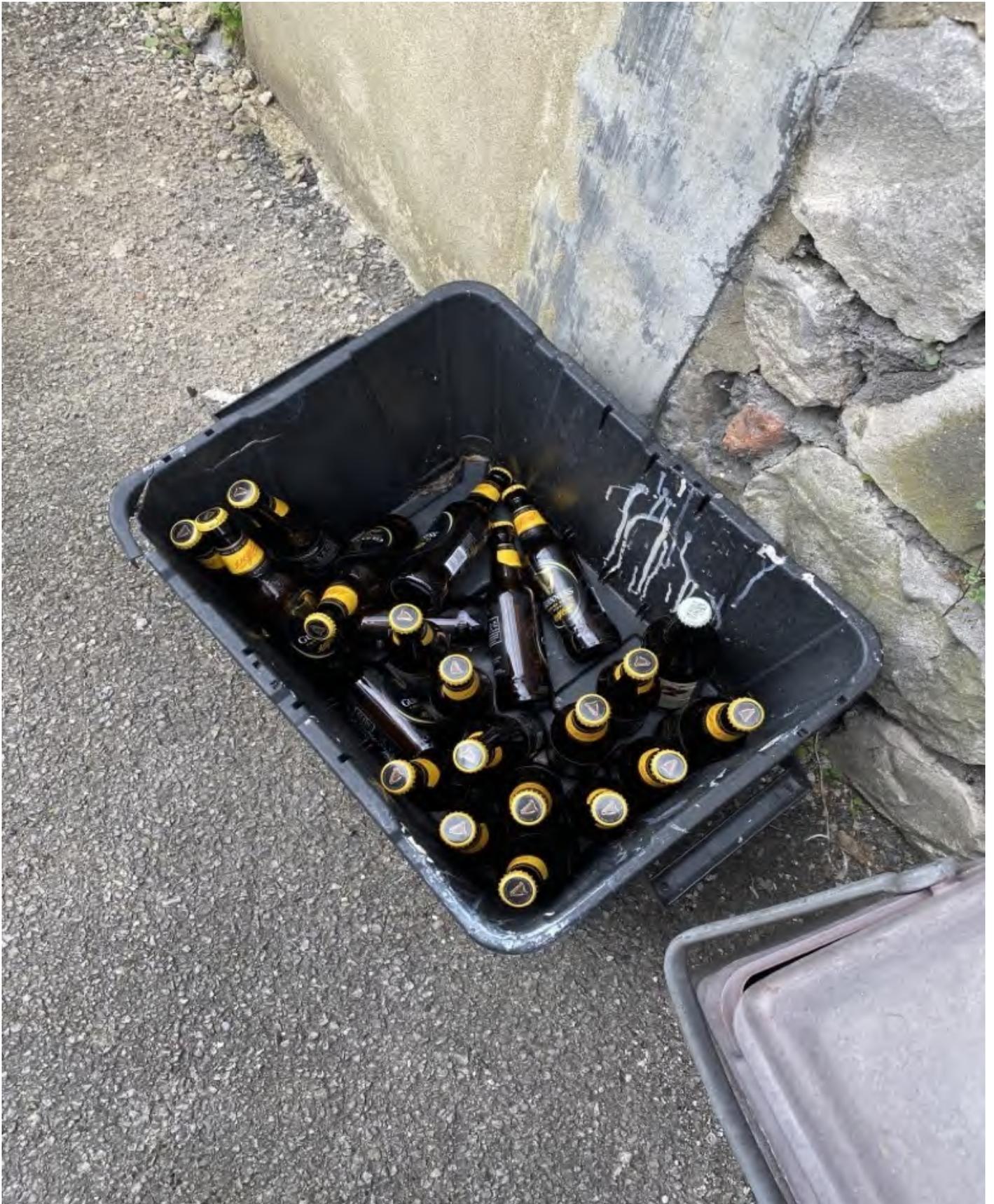
From the photos above you can see how studentification has had negative impacts and caused conflict for Clifton. Image 1 depicts the side of a house on Alma Rd Ave on the 30th august 2023 this is the time of year where students have not yet started uni. The second image shows the same building on the 30th of September 2023, there is new graffiti that was not there previously. This shows that a higher number of students in the area can cause environmental conflicts. The last picture shows a box of empty bottles this image was taken on the 30th august 2023 this was not a marked recycling bin and was on the corner of the street no outside a house, and so shows that students can show disrespect towards recycling measures put in place by the council and further cause environmental and social conflicts for Clifton.

3.3.4 Students t tests showing the differences in litter between residential and student streets.

Figure 3.3.4a. students t test for the 30/08/23

Students t test :

site	litter site A on 30/08/23 (x)	x^2	litter site A on 30/09/23 (y)	y^2
1	2	4	1	1
2	0	0	3	9
3	4	16	2	4
4	1	1	3	9
5	0	0	0	0
6	0	0	4	16
7	8	64	3	9
8	3	9	7	49
9	2	4	3	9
10	4	16	4	16
totals:	$\Sigma x = 24$	$\Sigma x^2 = 114$	$\Sigma y = 30$	$\Sigma y^2 = 122$
	$\bar{x} = 2.4$		$\bar{y} = 3.0$	

$$\bar{x} - \bar{y} = (-)0.6$$

$$t = \frac{0.6}{\sqrt{\frac{\frac{114 - 2.4^2}{10}}{9} + \frac{\frac{122 - 3^2}{10}}{9}}}$$

$$= \frac{0.6}{\sqrt{0.627 + 0.356}} = \frac{0.605}{\downarrow}$$

for comparison
no significant difference.

· critical value = 1.73 f. 0.05
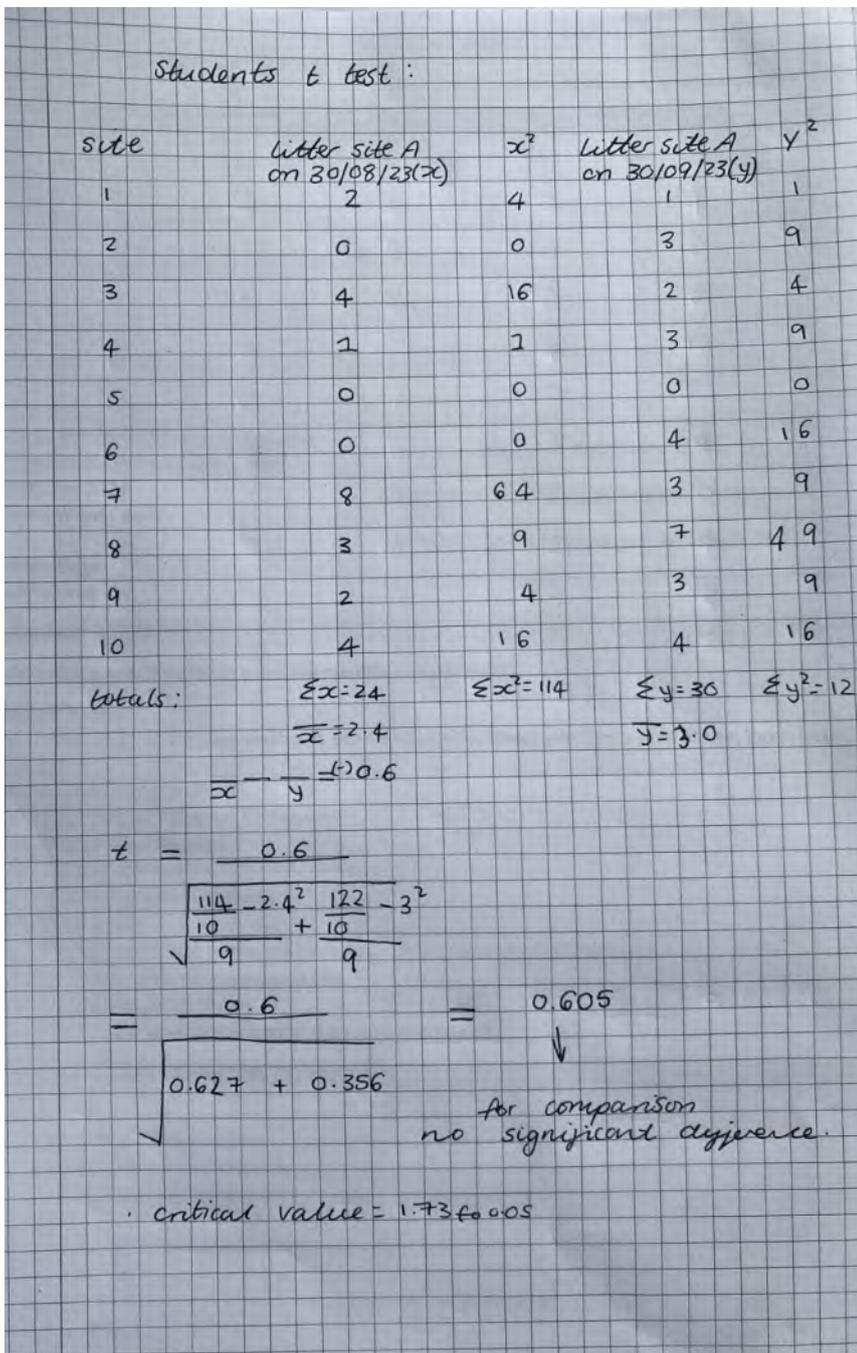
Figure 3.3.4b. students t test for the 30/09/23

students t test :

30/09/23

Site (n) number	litter at A (x values)	x^2	litter at B (y values)	y^2
1	1	1	2	4
2	3	9	0	0
3	2	4	0	0
4	3	9	4	16
5	0	0	5	25
6	4	16	3	9
7	3	9	0	0
8	7	49	2	4
9	3	9	0	0
10	4	16	0	0
totals=	$\Sigma x = 30$	$\Sigma x^2 = 122$	$\Sigma y = 16$	$\Sigma y^2 = 58$
	$\bar{x} = 3.0$		$\bar{y} = 1.6$	

$$t = \frac{(\bar{x} - \bar{y})}{\sqrt{\dfrac{\dfrac{\Sigma x^2}{n_x} - \bar{x}^2}{n_x - 1} + \dfrac{\dfrac{\Sigma y^2}{n_y} - \bar{y}^2}{n_y - 1}}}$$

$= \bar{x} - \bar{y} = 1.4$

$= \dfrac{1.4}{\sqrt{\dfrac{\dfrac{122}{10} - 3^2}{9} + \dfrac{\dfrac{58}{10} - 1.6^2}{9}}}$

$= \dfrac{\dfrac{122}{10} - 3^2}{9} = \dfrac{3.20}{9} = 0.356$

$= \dfrac{\dfrac{58}{10} - 1.6^2}{9} = \dfrac{3.24}{9} = 0.360$

$= \dfrac{1.4}{\sqrt{0.356 + 0.360}} = 1.65$

for 30/09/23

accept null hypothesis.

50
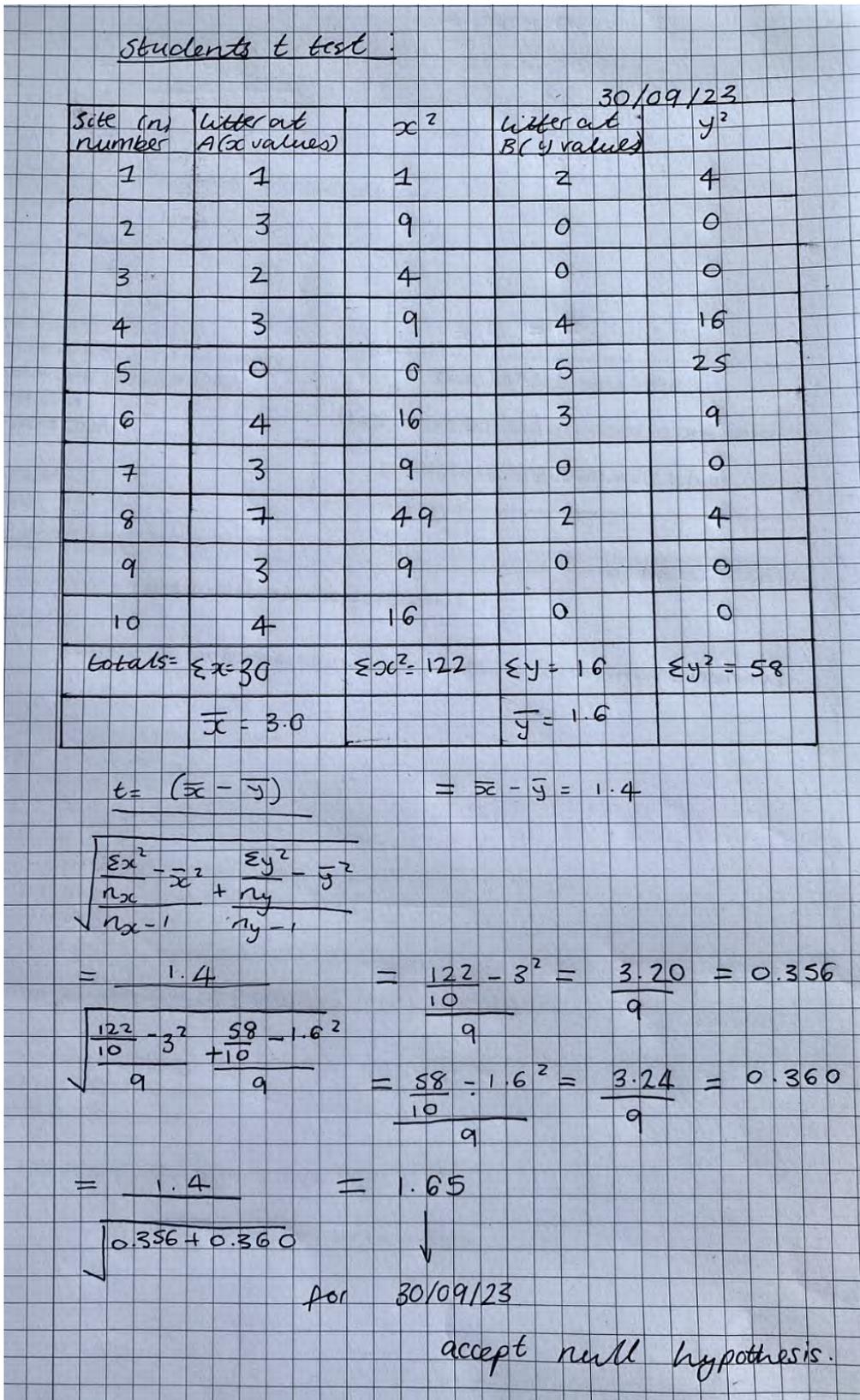
Figure 3.3.4c. students t test comparing site A (Melrose place/Alma Rd Ave) from 30/08 and 30/09

Students t test :

site	litter site A on 30/08/23 (x)	x^2	litter site A on 30/09/23 (y)	y^2
1	2	4	1	1
2	0	0	3	9
3	4	16	2	4
4	1	1	3	9
5	0	0	0	0
6	0	0	4	16
7	8	64	3	9
8	3	9	7	49
9	2	4	3	9
10	4	16	4	16
totals:	$\Sigma x = 24$	$\Sigma x^2 = 114$	$\Sigma y = 30$	$\Sigma y^2 = 122$
	$\bar{x} = 2.4$		$\bar{y} = 3.0$	

$$\bar{x} - \bar{y} = (-) 0.6$$

$$t = \frac{0.6}{\sqrt{\frac{114 - \frac{2.4^2}{10}}{9} + \frac{122 - \frac{3^2}{10}}{9}}}$$

$$= \frac{0.6}{\sqrt{0.627 + 0.356}} \qquad = 0.605$$

$\downarrow$

for comparison no significant difference.

· critical value = 1.73 for 0.05
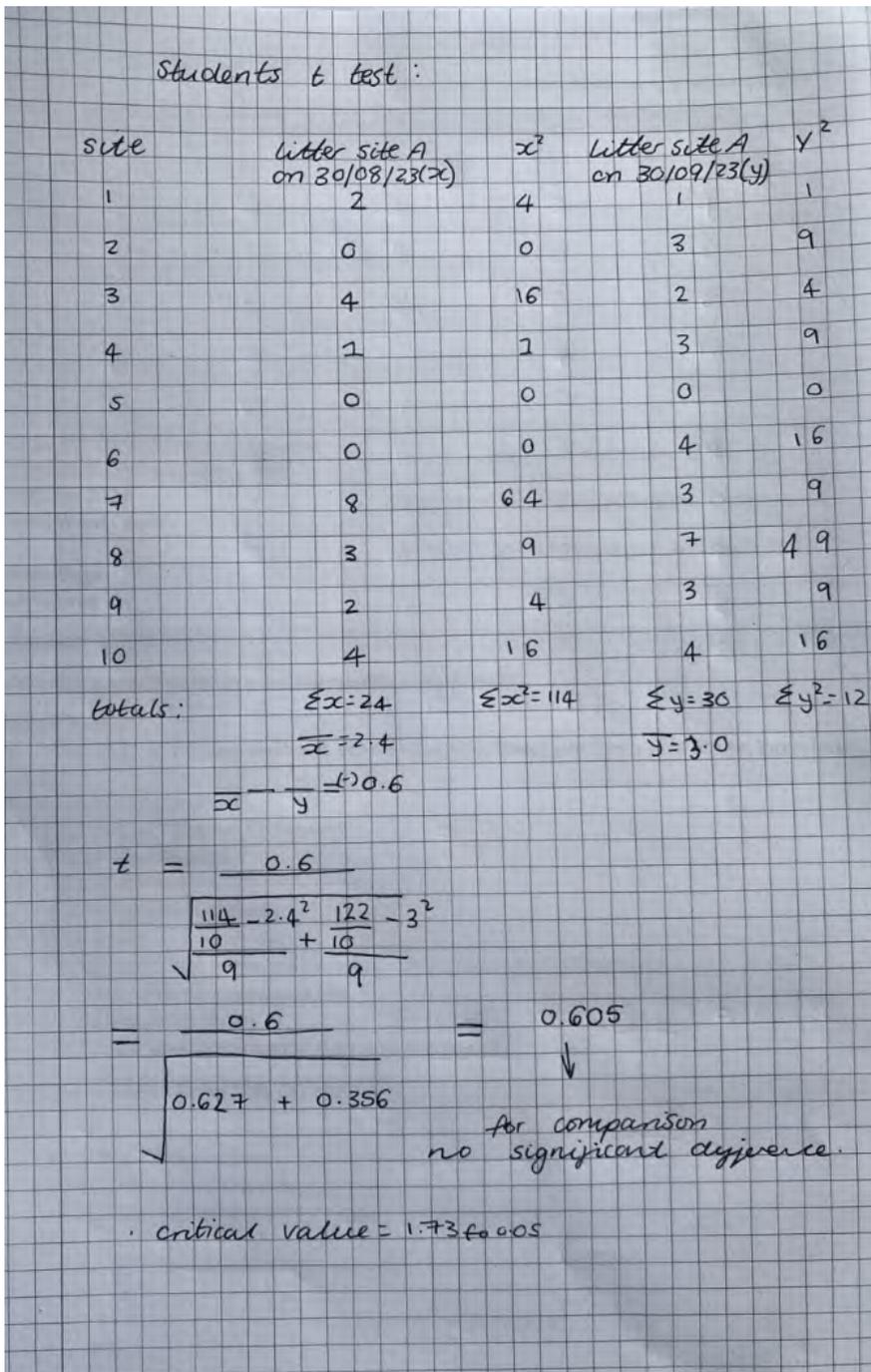
For all the above figures the null hypothesis was, there is no significant difference between amount of litter and that there is a >or= to 0.05% probability that difference is due to chance. I found that I had to accept my null hypothesis for all three stats tests, meaning that the litter was not significantly different between the student housing area, the residential housing area or even the number of students in the area at the time when count was collected. This could mean that students do not have a direct effect on the amount of litter in Clifton, this could be due to universities raising awareness about the importance of the environment or Cliftons local council being good at providing houses with bins that get collected regularly. Although the litter between the two locations was not significantly different the amount of litter in the area was still substantial. The presence of litter could suggest that levels of attachment for the area from all players is lower than it should be due to the influx of students in the area.

3.4 What are the cultural conflicts of studentification in Clifton?

3.4.1 sustainable community survey showing cultural aspects.

Most Sustainable	Good +2	Ok +1	Average 0	Poor -1	Bad -2	Least sustainable
Different Places of worship					*	One (or no) Places of worship
Diverse Range of Culture				*		Lack of Cultural Diversity
World supermarkets					*	No shops from different Cultures

Overall total for Clifton=-5

Lowest possible score=-6

Highest Possible score=+6

Average score=0

And so, Clifton community is 83% worse than average for cultural diversity.

This data shows that Clifton is not very culturally diverse, this could be due to the fact that ethnic minority students are less likely to go to university and therefore become a student living in the Clifton area. Bristol university says that of its 2023 intake only 23.1% of its students are from Black, Asian or minority ethnic backgrounds. (Bristol, n.d.) And so majority of shops, activities and supermarkets are tailored towards western cultures. This produces isolation for these groups that do live in the area, making cultural diversity conflicted.

Bristol City Council. (n.d.). *Clean Air Zone*. [online] Available at:
https://www.bristol.gov.uk/residents/streets-travel/bristols-caz.

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https://www.bristol.ac.uk/study/outreach/diversity/#:~:text=Diversity%20at%20the%20university
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Police.uk (2019). *Police.uk*. [online] Police.uk. Available at: https://www.police.uk.

Rightmove (2023). *Rightmove.co.uk*. [online] Rightmove.co.uk. Available at:
https://www.rightmove.co.uk/.

Street Check (n.d.). *Find your postcode and get information on your local area*. [online] Street Check.
Available at: https://www.streetcheck.co.uk.

The Noise Pages. (n.d.). *Home*. [online] Available at: https://www.thenoisepages.com/.

Conclusions and Critical Evaluations

4 conclusions

4.1.1 Enquiry question 1-4: Does Studentification cause social economic and environmental conflicts?

After analysing all collected data, for enquiry questions 1-4 I can reject my null hypothesis, as social, environmental, and economic conflicts have been caused, But to what extent?

4.1.1.1 Does studentification cause social conflicts in Clifton?

Social conflicts were caused when students were in the area. Noise levels increased by an average of 6.6% from both locations see figure 3.1.1. This noise pollution causes conflicts between different players within Clifton (students, and Residents). 3.1.2 Illustrates the social conflicts caused by this migration of students within the university term, properties are more likely to be affected when the proportion of students in the area is higher however this increased number of students in Clifton leaves long term damage to property quality in residential and Student dense areas. While students are in the area, the number of antisocial behavior and related crimes happen at an increased frequency (especially in months like September and February where there is a higher number of students),3.1.4. And overall, Clifton is 25% worse than average, The data showing that studentification has an effect in university term and not in term, demonstrates long term conflicts that can be harder to solve, have been caused by studentification.

4.1.1.2 Does studentification cause economic conflicts in Clifton?

Studentification has led to some economic conflicts within Clifton but has also created some benefits. In general, economic conflicts are created by students in the area. During peak student times, local convenience shops and fast-food shops are favored, these large chain shops stop money from circulating in the Clifton area reducing economic wealth. As population density decreases when students are not there, other businesses and shops suffer causing several empty buildings and reduced economic value 3.2.1. Within Clifton the housing composition is very much in favor of students with many HMOs and accommodation 3.2.4. Rent price in this area is higher than average, as landlords aim for rent to be split between parties. This causes negative implications for the economic value of Clifton; fewer people can afford to live in Clifton and so services become neglected. To some degree an increased number of students have created benefits for Clifton. Students are a younger demographic, several shops and activities targeted towards students make up the high street, this provokes a reason for people to travel to Clifton and intern causes economic growth.

4.1.1.3 Does studentification cause environmental conflicts in Clifton?

Studentification in Clifton has caused environmental conflicts, the amount of litter, graffiti and vandalism is much higher during the university term when students are in the area. This reduces the overall environmental quality of all areas in Clifton, see 3.3.2 and 3.3.3 . It is visible that the local council is aware of these environmental conflicts caused by Studentification as good rubbish services are in place to try and combat these issues, this makes Clifton overall better than average 3.3.1 despite visible conflicts.

4.1.1.4 Does studentification cause cultural conflicts in Clifton?

Studentification in Clifton has caused conflicts, inclusive and different places of worship are absent from the community and the high-street has become "whitewashed". Although this demographic is slowly changing, the number of ethnic minority students is increasing and the number of independently run businesses is increasing, this is diversifying Clifton and combatting the conflicts previously caused, and so the extent of the conflicts caused to culture by studentification is not as detrimental as the environmental, social, and economic conflicts effecting Clifton. Unfortunately, the data from my questionnaire meant some hypothesis about cultural conflicts were unanswered so, whether cultural conflicts are caused by studentification and how residents and students feel about it, is partially inconclusive.

4.2 Where else has studentification caused these conflicts?

In Headingly, a city suburb in Leeds, it has faced similar conflicts from studentification. It has become an increasingly unattractive place to live where environmental problems like increased littering, graffiti and vandalism have destroyed residential streets. The large investment in HMOs in Leeds retracted budgets to spend on communities began a spiral of decline in Leeds, lowering engagement levels and increasing residents' levels of deprivation.

4.3 'The big picture'

Referring to the theory of cumulative causation, where one thing leads to another. Social conflicts lead to economic and then in turn the degradation of the environment. And all conflicts in an area can impact the lively hood of people living in the area, both residents and students. Studentification does cause various conflicts to Cities.

Data collected	Reliability of Evidence	Validity of conclusions	How could I improve
EQ1	Despite results being reliable sampling, they may not have been accurate as chosen areas were very near to each other and so results may differ more depending on distance from each other. Both locations were areas off the main high street but at different ends. However, surveys were collected at a range of locations within different areas and so is representative of a large percentage of Clifton.	Conclusions are mostly valid as they are drawn from a variety of factors along with comparing collected data to secondary sources to check they are reliable. Along with a mixture of both qualitative and quantitative data.	By selecting areas that are further away from each other there would be a larger difference in the data, making comparisons more apparent and showing more obvious conflicts created.
EQ2	Most data collected for EQ2 was secondary, and so was taken from reliable websites such as the government website (census data) and leasing/ rental websites. Sample may not necessarily be representative of the whole of Clifton area as data on housing price was taken at a specific time, prices may have fluctuated. Sample size of footfall survey is not the most reliable as recorded within 5 minutes in one location, number of people entering shops may be due to time of day and not attraction of services/shops.	Conclusions are largely valid as they are drawn from both qualitative and quantitative data from a variety of sources. Data collected was defended by data taken from official secondary sources. Conclusions may not be as valid as they were not supported by an accurate statistical test, to help to determine whether to accept or reject null hypothesis.	To carry out footfall survey for longer to create a larger sample size, carry out footfall survey at several different times of day and calculate an average to reduce data being determined by peak times. Complete statistical test for data to provide clearer conclusions. Collect all secondary data more than once and compare to see how much data differs.
EQ3	Some data is qualitative data converted into quantitative data and is based on opinion and so may not be the most reliable. Changes to the environment may have other causes than human action, not accounted for. Evidence collected in only two locations and so may not be representative of the entirety of Clifton.	Conclusions are mostly valid as evidence is from a variety of factors. But may not be the most valid as assumptions were made about students and council.	Increase sample size of area surveyed this will decrease the chance of wrong conclusion from being drawn due to a singular highly littered/graffitied area. Assumptions must be backed up with evidence and so a questionnaire could be taken by students about their individual environmental sustainability.
Additional secondary data	Secondary data taken from official government websites and documents, housing letting agents and so on is reliable.	This is valid as conclusions are made based on either quantitative or easy to measure information.	Use statistical tests created by government official websites to produce a more accurate conclusion of different locations and to determine the probability at which conflicts are created.

Appendix

5.1 Reference List:

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5.2 Data collection:

30/08/23

White ladies Road:			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
General Quality	1.	Overall, this segment is **Attractive**.				✓	
	2.	This segment is **Open**.		✓			
	3.	This segment is **Enclosed**.				✓	
	4.	There is an appearance of **General Maintenance/Cleanliness** along this segment.				✓	
Hardscape Quality	5.	**Buildings** on this segment are Attractive. ☐ N/A				✓	
	6.	There is a balance of **Complexity and Order** among Architectural Elements on this segment. ☐ N/A				✓	
	7.	There are **Historic Buildings and/or Details** or other distinctive site-specific design elements on this segment.				✓	
	8.	There are <u>no</u> signs of **Neglect** along this segment.		✓			
	9.	**Path Material** on this segment is attractive. Path ☐ is or ☐ is not separate from the street or ☐ incomplete.			✓		
	10.	**Condition/Maintenance** of path along this segment is well kept.			✓		
	11.	There are <u>no</u> **Obstructions** on the path in this segment.		✓			
Softscape Quality	12.	**Street Trees** are present along this segment.				✓	
	13.	There is **Public Green Space** on this segment.					✓
	14.	**Plant Material** on this segment is attractive. ☐ N/A				✓ ✓	
Pedestrian Quality	15.	**Built Elements** are at a Pedestrian Scale on this segment.					✓
	16.	The **Street Width and Vehicular Traffic Volume** on this segment are pedestrian-oriented. **Speed Limit:** _____					✓
	17.	There are **Amenities** on this segment that indicate that this is a pedestrian-oriented area.				✓	
	18.	The segment is **Legible**. Elements that indicate this include: banners, awnings, community announcements, monuments, public art, etc.					✓
Social Quality	19.	There are a variety of **Public Social Spaces** (indoor/outdoor) in this segment.				✓	
	20.	There are people present or indication that this segment has **High Pedestrian Usage**.					✓

Comments (refer to #):   End Time:_____

dB →

Melrose .
72
70
74

St Johns
55
58
60

Melrose place/Alma Road Ave: Score:

Factor	House condition survey			
	None	A little	Some	Lots
Peeling paint	0	1	(3)	5
Damage to roof	0	1	3	(5)
Damage to walls	0	1	3	(5)
Damage to gutters	0	1	(3)	5
Broken glass	0	(1)	3	5
Visible cracks in walls	0	1	3	(5)
Rotting wood	0	1	(3)	5

St Johns Road: Score:

Factor	House condition survey			
	None	A little	Some	Lots
Peeling paint	0	(1)	3	5
Damage to roof	(0)	1	3	5
Damage to walls	(0)	1	3	5
Damage to gutters	(0)	1	3	5
Broken glass	(0)	1	3	5
Visible cracks in walls	0	1	(3)	5
Rotting wood	(0)	1	3	5

Melrose place/Alma Road Ave: Score:

LOW QUALITY	Environmental quality index					HIGH QUALITY
	-2	-1	0	1	2	
No greenery - no trees or grass verges		✓				Lots of greenery - trees and grass verges
Air pollution high - smell of vehicle exhausts or industry				✓		No obvious air pollution
Very noisy		✓				Little if any noise
Heavy road traffic			✓			Little road traffic
Lots of derelict land		✓				No derelict land
Land use mainly industrial				✓		Land use solely residential
Lots of litter, graffiti and vandalism		✓				No litter, graffiti or vandalism
Far from a park (>10 minutes walk)					✓	Park nearby
Far from a primary school (>10 minutes)	✓					Primary school nearby
Far from shops (> 10 minutes)					✓	Shops nearby

St Johns Road: Score:

LOW QUALITY	Environmental quality index					HIGH QUALITY
	-2	-1	0	1	2	
No greenery - no trees or grass verges					✓	Lots of greenery - trees and grass verges
Air pollution high - smell of vehicle exhausts or industry				✓		No obvious air pollution
Very noisy					✓	Little if any noise
Heavy road traffic					✓	Little road traffic
Lots of derelict land			✓			No derelict land
Land use mainly industrial					✓	Land use solely residential
Lots of litter, graffiti and vandalism				✓		No litter, graffiti or vandalism
Far from a park (>10 minutes walk)					✓	Park nearby
Far from a primary school (>10 minutes)				✓		Primary school nearby
Far from shops (> 10 minutes)					✓	Shops nearby

Most sustainable	Good +2	Ok +1	Ave 0	Poor -1	Bad -2	Least Sustainable
Transport Train station nearby Convenient Bus services Cycle or Walking Routes No Traffic Congestion	✓ ✓		✓ ✓			Station far away No convenient Bus services No cycle or Walking Routes Bad Traffic congestion
Services Good Provision of schools Good Provision of Health Wide variety of local shops Leisure facilities for all ages	✓	✓		✓ ✓		No school Provision No Healthcare Provision No Shops No leisure facilities
Environment Good amount of greenery Unpolluted Air Clean, litter-free streets Easy access to Recyling	✓		✓	✓ ✓		No green spaces Polluted Air Dirty, littered streets No access to recycling
Economy Many local jobs Variety of types of work No empty Buildings or shop Good transport links		✓ ✓		✓ ✓		No local job opportunities One (or no) type of work Many empty Buildings No transport links
Culture Different Places of worship Diverse Range of Culture World Supermarkets				✓ ✓	✓ ✓	One (or no) Places of worship Lack of Cultural Diversity No shops from different cultures
Community Wide range of activities Plenty of places to meet Low Crime rate 100% affordable homes			✓ ✓	✓ ✓		No activities to do No places to meet High Crime Rate No affordable homes

Local Services Survey

Whiteladies road:

Shop Type:	Number of each along road:
Independent, small businesses	卅 I
Health, and Beauty (e.g., pharmacy)	I I
Food and drink (e.g., coffee shops, fast food)	卅 卅 I I
Activities/ leisure (e.g., cinema)	I
Charity shops	I I
Clothing shops	—
Empty buildings	I I I I
supermarkets	I I

Footfall survey:

Shop Type:	Number of people to enter in 5mins.	Number of people to walk past in 5mins.
Independent, small businesses	I I	I I I I
Health, and Beauty (e.g., pharmacy)	I I I	I I I
Food and drink (e.g., coffee shops, fast food)	卅 I	卅 I I
Activities/ leisure (e.g., cinema)	I ½	I I I
Charity shops	O	I I
Clothing shops	N/A	N/A
Empty buildings	N/A	
supermarkets	卅	I I

30/08/23

amount of litter (every 5m)

Site:	Melrose Place/Alma Road Ave:	St Johns Road:
1	2	0
2	0	3
3	4	0
4	1	0
5	0	2
6	0	0
7	8	1
8	3	4
9	2	0
10	4	0

70

30/09/23

White ladies Road:

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
General Quality	1. Overall, this segment is **Attractive**.				✔	
	2. This segment is **Open**.		✔			
	3. This segment is **Enclosed**.				✔	
	4. There is an appearance of **General Maintenance/Cleanliness** along this segment.				✔	
Hardscape Quality	5. **Buildings** on this segment are Attractive. ☐ N/A			✔		
	6. There is a balance of **Complexity and Order** among Architectural Elements on this segment. ☐ N/A				✔	
	7. There are **Historic Buildings and/or Details** or other distinctive site-specific design elements on this segment.				✔	
	8. There are **no** signs of **Neglect** along this segment.		✔			
	9. **Path Material** on this segment is attractive. Path ☐ is or ☐ is not separate from the street or ☐ incomplete.			✔		
	10. **Condition/Maintenance** of path along this segment is well kept.			✔		
	11. There are **no Obstructions** on the path in this segment.		✔			
Softscape Quality	12. **Street Trees** are present along this segment.				✔	
	13. There is **Public Green Space** on this segment.					✔
	14. **Plant Material** on this segment is attractive. ☐ N/A				✔	
Pedestrian Quality	15. **Built Elements** are at a Pedestrian Scale on this segment.				✔	
	16. The **Street Width** and **Vehicular Traffic Volume** on this segment are pedestrian-oriented. **Speed Limit:** _____					✔
	17. There are **Amenities** on this segment that indicate that this is a pedestrian-oriented area.				✔	
	18. The segment is **Legible**. Elements that indicate this include: banners, awnings, community announcements, monuments, public art, etc.					✔
Social Quality	19. There are a variety of **Public Social Spaces** (indoor/outdoor) in this segment.				✔	
	20. There are people present or indication that this segment has **High Pedestrian Usage**.					✔

Comments (refer to #):   End Time:_____

melrose.   St Johns

dB →   80   60
            77   62
            75   61

Melrose place/Alma Road Ave:　　　　Score:

Factor	House condition survey			
	None	A little	Some	Lots
Peeling paint	0	1	(3)	5
Damage to roof	0	1	3	(5)
Damage to walls	0	1	3	(5)
Damage to gutters	0	1	3	(5)
Broken glass	0	1	3	(5)
Visible cracks in walls	0	1	3	(5)
Rotting wood	0	1	(3)	5

St Johns Road: **Score:**

Factor	House condition survey			
	None	A little	Some	Lots
Peeling paint	0	(1)	3	5
Damage to roof	(0)	1	3	5
Damage to walls	0	(1)	3	5
Damage to gutters	(0)	1	3	5
Broken glass	0	1	(3)	5
Visible cracks in walls	0	1	(3)	5
Rotting wood	(0)	1	3	5

Melrose place/Alma Road Ave: Score:

LOW QUALITY	Environmental quality index					HIGH QUALITY
	-2	-1	0	1	2	
No greenery - no trees or grass verges		✓				Lots of greenery - trees and grass verges
Air pollution high - smell of vehicle exhausts or industry			✓			No obvious air pollution
Very noisy	✓					Little if any noise
Heavy road traffic	✓					Little road traffic
Lots of derelict land		✓				No derelict land
Land use mainly industrial				✓		Land use solely residential
Lots of litter, graffiti and vandalism	✓					No litter, graffiti or vandalism
Far from a park (>10 minutes walk)					✓	Park nearby
Far from a primary school (>10 minutes)	✓					Primary school nearby
Far from shops (> 10 minutes)					✓	Shops nearby

LOW QUALITY	Environmental quality index					HIGH QUALITY
	-2	-1	0	1	2	
No greenery - no trees or grass verges					✓	Lots of greenery - trees and grass verges
Air pollution high - smell of vehicle exhausts or industry			✓			No obvious air pollution
Very noisy			✓			Little if any noise
Heavy road traffic			✓			Little road traffic
Lots of derelict land			✓			No derelict land
Land use mainly industrial					✓	Land use solely residential
Lots of litter, graffiti and vandalism				✓		No litter, graffiti or vandalism
Far from a park (>10 minutes walk)					✓	Park nearby
Far from a primary school (>10 minutes)				✓		Primary school nearby
Far from shops (> 10 minutes)					✓	Shops nearby

Most sustainable	Good +2	Ok +1	Ave 0	Poor -1	Bad -2	Least Sustainable
Transport						
Train station nearby			✓			Station far away
Convenient Bus services	✓					No convenient Bus services
Cycle or Walking Routes	✓					No cycle or Walking Routes
No Traffic Congestion			✓			Bad Traffic congestion
Services						
Good Provision of schools				✓		No school Provision
Good Provision of Health		✓				No Healthcare Provision
Wide variety of local shops	✓					No Shops
Leisure facilities for all ages				✓		No leisure facilities
Environment						
Good amount of greenery				✓		No green spaces
Unpolluted Air			✓			Polluted Air
Clean, litter-free streets				✓		Dirty, littered streets
Easy access to Recyling	✓					No access to recycling
Economy						
Many local jobs		✓				No local job opportunities
Variety of types of work					✓	One (or no) type of work
No empty Buildings or shop				✓		Many empty Buildings
Good transport links		✓				No transport links
Culture						
Different Places of worship					✓	One (or no) Places of worship
Diverse Range of Culture				✓		Lack of Cultural Diversity
World Supermarkets					✓	No shops from different cultures
Community						
Wide range of activities				✓		No activities to do
Plenty of places to meet			✓			No places to meet
Low Crime rate			✓			High Crime Rate
100% affordable homes					✓	No affordable homes

Whiteladies road: Local Services survey

Shop Type:	Number of each along road:
Independent, small businesses *1*	HHT I
Health, and Beauty (e.g., pharmacy) *2*	II
Food and drink (e.g., coffee shops, fast food) *3*	HHT HHT II
Activities/ leisure (e.g., cinema) *4*	I
Charity shops *5*	II
Clothing shops *6*	~~€~~
Empty buildings *7*	IIII
supermarkets *8*	II

Footfall survey:

Shop Type:	Number of people to enter in 5mins.	Number of people to walk past in 5mins.
Independent, small businesses	II II	HHT III
Health, and Beauty (e.g., pharmacy)	I	HHT I
Food and drink (e.g., coffee shops, fast food)	HHT HHT	III
Activities/ leisure (e.g., cinema)	—	HHT III
Charity shops	IIII	HHT IIII
Clothing shops	N/A	N/A
Empty buildings	N/A	HHT HHT I
supermarkets	HHT II	III

30/09/23

amount of litter (every 5m)

Site:	Melrose Place/Alma Road Ave:	St Johns Road:
1	1	2
2	3	0
3	2	0
4	3	4
5	0	5
6	4	3
7	3	0
8	7	2
9	3	0
10	4	0

5.3 Stats tests:

students t test

Site (n) number	litter at A (x values)	x^2	litter at B (y values)	y^2
1	1	1	2	4
2	3	9	0	0
3	2	4	0	0
4	3	9	4	16
5	0	0	5	25
6	4	16	3	9
7	3	9	0	0
8	7	49	2	4
9	3	9	0	0
10	4	16	0	0
totals=	$\Sigma x = 30$	$\Sigma x^2 = 122$	$\Sigma y = 16$	$\Sigma y^2 = 58$
	$\bar{x} = 3.0$		$\bar{y} = 1.6$	

$$t = \frac{(\bar{x} - \bar{y})}{\sqrt{\frac{\frac{\Sigma x^2}{n_x} - \bar{x}^2}{n_x - 1} + \frac{\frac{\Sigma y^2}{n_y} - \bar{y}^2}{n_y - 1}}}$$

$$= \bar{x} - \bar{y} = 1.4$$

$$= \frac{1.4}{\sqrt{\frac{\frac{122}{10} - 3^2}{9} + \frac{\frac{58}{10} - 1.6^2}{9}}}$$

$$= \frac{\frac{122}{10} - 3^2}{9} = \frac{3.20}{9} = 0.356$$

$$= \frac{\frac{58}{10} - 1.6^2}{9} = \frac{3.24}{9} = 0.360$$

$$= \frac{1.4}{\sqrt{0.356 + 0.360}}$$

$$= 1.65$$

for 30/09/23

80

accept null hypothesis.

Students t test:

site	Litter site A on 30/08/23 (x)	x^2	Litter site A on 30/09/23 (y)	y^2
1	2	4	1	1
2	0	0	3	9
3	4	16	2	4
4	1	1	3	9
5	0	0	0	0
6	0	0	4	16
7	8	64	3	9
8	3	9	7	49
9	2	4	3	9
10	4	16	4	16
totals:	$\Sigma x = 24$	$\Sigma x^2 = 114$	$\Sigma y = 30$	$\Sigma y^2 = 122$

$\bar{x} = 2.4$

$\bar{y} = 3.0$

$$\bar{x} - \bar{y} = (-)0.6$$

$$t = \frac{0.6}{\sqrt{\frac{\frac{114}{10} - 2.4^2}{9} + \frac{\frac{122}{10} - 3^2}{9}}}$$

$$= \frac{0.6}{\sqrt{0.627 + 0.356}} = 0.605$$

↓

for comparison
no significant difference.

· critical value = 1.73 for 0.05

Students t test :

30/08/23

Site (n) number	litter at A (x values)	x^2	litter at B (y values)	y^2
1	2	4	0	0
2	0	0	3	9
3	4	16	0	0
4	1	1	0	0
5	0	0	2	4
6	0	0	0	0
7	8	64	1	1
8	3	9	4	16
9	2	4	0	0
10	4	16	0	0
Totals=	$\sum x = 24$	$\sum x^2 = 114$	$\sum y = 10$	$\sum y^2 = 30$
	$\bar{x} = 2.4$		$\bar{y} = 1.0$	

$$t = \frac{(\bar{x} - \bar{y})}{\sqrt{\dfrac{\frac{\sum x^2}{n_x} - \bar{x}^2}{n_x - 1} + \dfrac{\frac{\sum y^2}{n_y} - \bar{y}^2}{n_y - 1}}} \quad \rightarrow (\bar{x} - \bar{y}) = 1.4$$

$$= \frac{1.4}{\sqrt{\dfrac{\frac{114}{10} - 2.4^2}{10-1} + \dfrac{\frac{30}{10} - 1.0^2}{10-1}}} \rightarrow \frac{\frac{114}{10} - 2.4^2}{9} + \frac{\frac{30}{10} - 1^2}{9}$$

$$= \frac{5.64}{9} + \frac{2}{9}$$

$$= \frac{1.4}{\sqrt{\dfrac{5.64}{9} + \dfrac{2}{9}}}$$

$$= 1.52$$

critical values 0.05 = 1.73
                 0.01 = 2.88

5.4 Diary of Data collection:

Date visited	Data Collected
Wednesday 30/08/23	- Built up place survey - Property quality survey - Environmental quality survey - Sustainable community survey - Decibel reading - Local service survey - Footfall survey - Litter count - Land use map
Saturday 30/09/23	- Built up place survey - Property quality survey - Environmental quality survey - Sustainable community survey - Decibel reading - Local service survey - Footfall survey - Litter count - Land use map