



Navigating Public Spaces: How Urban Design Enforces Fear in Women and Perpetuates Gender-based Spatial Exclusion

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Summary

This thesis investigates the effect of physical elements on the safety perceptions of women between the ages of 18 and 30 and how this leads to gender-based spatial exclusion in the inner city of Groningen. Through analysis of existing studies combined with an on-site focus group interview supplemented by expert insights and observational analysis, it was found that visibility, lighting, level of entrapment and the state of the area are the main physical indicators of whether a place is safe; other important factors include the identity, behavior and number of the people present as well as the time of day, which serves to increase the effects of all indicators when it is nighttime. For future research, it is necessary to investigate the combined effects of physical alterations to a space in combination with specific policies centered around the safety of women, as well as spatial injustice and the influences of media on the policy domain.

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Introduction

Women around the world continue to face violence, intimidation, discrimination and exclusion within homes, at the workplace and in public spaces (Azcona and Min, 2023). Although most research focuses heavily on developing countries, a study done by CBS shows that around 70% of women aged between 18 and 21 in the Netherlands have experienced intimidation in public spaces in recent years, as opposed to under 40% of men in the same age category (CBS, 2022). It can be concluded that it is more dangerous for women to utilize public spaces than it is for men; therefore, women experience inequalities in accessing public space. Hille Koskela (1999) argues that urban space is produced by genderized notions of perceived safety, in that sense, women's fears continue to enforce gender-based spatial exclusion. Because of the specific nature and reasoning behind this kind of avoidance of-, and restrictive access to public spaces, it can be concluded that men have more rights to occupy public space than women resulting in gendered exclusions in relation to space (H. Koskela, 1999), here called "gender-based spatial exclusion". In order to effectively tackle these social inequalities, actions need to be taken within the policy and planning domain, such as the implementation of smart city initiatives or increased surveillance (Nagaraj Naik, 2020).

"Fear leads women to take precautions which are often spatial, such as avoiding certain parts of the city or not going out after dark" (H. Koskela, p. 111, 1999)

According to Goh, Loukaitou-Sideris and Vinit Mukhija (Just Urban Design, 2022), spatial exclusion to the degree that it inhibits the rights of a group of people to access a public space, aligns with the concept definitions of interactional injustice and recognitional justice. The latter, because this problem illustrates a lack of female representation in urban design and policy making. However, there is a stark lack of academic literature discussing the

spatial qualities and design elements that restrict or enhance the perceived safety of women in urban environments. More research is needed if governments and individuals wish to effectively create new inclusive, and therefore safer and more just spaces, or improve existing spaces.

Research Problem

This research aims to explore the young female perspective within just place design in the inner city of Groningen. Intrinsicly, the public realm is a place of open access to everyone. It is often not design itself that creates an unsafe situation where women are motivated to avoid these spaces, but other people (Roy et al., 2022); design can, however, perpetuate misconduct and fear of being victimized as well as remedy these issues. Regardless of the cause of the problem, the solutions have to lie within the policy- and planning domains (Nagaraj Naik, 2020). In order to clarify the problem, the goal of this paper is to bring the physical elements into focus that produce and perpetuate a subjective lack of safety as well as explain how these subjective feelings can lead to exclusion through these questions:

How do different spatial elements in public spaces affect the safety perceptions of women between the ages of 18 and 30 and lead to gender-based spatial exclusion in the inner city of Groningen?

- Which spatial elements have an effect on the perceived safety in the inner city of Groningen according to local women?

- How does perceived safety or fear of crime lead to gender-based spatial exclusion?

- What are the established design elements and ongoing plans or projects to increase safety through design in the city?

Scope

This study purposefully leaves out the complexities of the full gender-spectrum in order to focus on a more homogenous group,

which serves to narrow the frame of reference to allow for a sharper focus on the subject of justice within design. The purpose is solely to illustrate the female perspective. Additionally, this research utilizes studies done in a wider range of journals, as the theme is both spatial/physical as well as social and psychological; to make full use of the multi-disciplinary aspect of spatial justice it is impossible to omit relevant data from adjacent scientific fields.

Structure

This paper will commence with a theoretical framework, both to explain concepts and theories relevant to this study, as well as to provide a deeper understanding of the relevance and academic context around the topic. This is followed by the expectations and the methodology, after which the results are laid out. Lastly a discussion section, which will provide more information around the personal views that have been utilized, and the conclusions with recommendations for further research.

Theoretical Framework

Perceived Safety and Actual Safety

The concepts of perceived and actual safety, though they seem to oppose each other, tend to exist either separately at the same time or have a causal relationship, a confirmed measure of high safety can bring about the feeling of safety as well as the other way around. While actual safety is concerned with a proven measure of safety in a specific area, taking into account crime rates and other risks, perceived safety ventures into the subjective and indicates how safe a specific area is perceived as. Perceived safety and a "fear of crime" can be used interchangeably as they refer to the same risks (Boomsma and Steg, 2014). Fear of crime in a general sense can be caused by uncertainty in the environment (Kennedy and Silverman, 1985). In order to reduce this fear, studies propose increasing lighting (Farrington and Welsh, 2007 & Kanan and Pruitt, 2002), decreasing entrapment

levels (Boomsma and Steg, 2014), as well as reducing signs of incivility such as drug use, vandalism, derelict buildings or spaces (Greenberg, 1986 & Abed and Aljibar, 2023 & Kanan and Pruitt, 2002); these can all be seen as "indicators" of (a lack of) safety. Additionally, the presence of CCTV surveillance is shown to have a preventative effect on crime rates (Welsh and Farrington, 2009). These safety indicators, as summarized, have yet to be studied in unison in order to illustrate the definite effect of them on safety perceptions as well as how it directly relates to gender-based spatial exclusion.

"Eyes on the Street"

"Eyes on the Street" is a well-known theory by journalist and urban activist Jane Jacobs in her book "The Death and Life of great American Cities" (1961). It illustrates how public space needs to be guarded by the people occupying it, and how that is what makes the public spaces safe. Linning and Eck (2021) provide a comprehensive explanation of who those guardians must be; criminologists tend to believe the residents themselves can fulfil that role, however, more attention is brought to property owners and shopkeepers. Even so, both groups, as influenced by the built environment, increase visibility and have a positive effect on actual and perceived safety (J. Jacobs, 1961). Visibility is one of the main elements that create a feeling of safety in the public realm, as it is heavily influenced by urban design. Being visible increases the chance of receiving aid and communicating effectively (Roy et al., 2022); being able to oversee the space increases the chance of successfully escaping and avoiding violent threats if need be (Boomsma and Steg, 2014).

Gender-based Spatial Exclusion

The notion of fear of violence in women as projected onto the opposite sex becomes a geographical issue when it causes a change in spatial behavior. In avoiding or escaping certain spaces and consequentially changing spatial behavior, the social construct of that space is then altered on the basis of a specific fear

found mostly in women; space as a social construct can therefore be seen as a product of gendered power-relations (Koskela, 1999). Many contemporary urbanists view space as both product and producer of exclusion as seen through the lens of gender, culture and power (Harvey, 1990 & LeFebvre, 1991 & Massey, 1994). Doreen Massey goes as far as to state that "Spaces, places and our senses of them are gendered through and through." (1994, p. 186). Exclusion in the most general sense is defined as "the act of not allowing someone to take part in an activity or to enter a place." (Cambridge Dictionary, 2019); because fear in the context of perceived safety is an involuntary reaction to a space or characteristics of a space, it is gendered spatial exclusion when specifically a woman consequently alters and/or limits their mobility in order to avoid this space. Assuming that spaces are indeed inherently gendered, this means that even though there are no physical limitations to entering, women may be discouraged, intimidated, or outright harassed or attacked when they do choose to occupy a space that was not designed for them even if it carries the label "public" (Massey, 1994). The risk of being deterred in such a manner translates into the previously mentioned safety indicators, which, consciously or unconsciously, indicate the risk of facing such threats. Gender-based spatial exclusion as an outcome of negative safety perceptions relates directly to that risk of being deterred as a consequence of negative interactions in a public space.

The theme of gendered exclusions in relation to public safety and public space was a strong driver for policy change in the Netherlands back in the 1970s, however, the interventions pertained to the physical qualities of space, failing to address the social constructs and subjective perceptions that help produce it. Gender, as well as race, age and cultural groups were all grouped together under these social safety measures (Droogleever Fortuijn, 2002). However, it appears to not be sufficient to have such a selective outlook when it comes to

safety, as it is still an issue more than forty years later (CBS,2022), causing inequality in the accessibility of public space.

Interactional and Recognitional Justice

Justice becomes relevant when there are power imbalances to be observed (Moroni, 2019), as there are between men and women in public spaces. In order to operationalize the concept of Justice, the book "Just Urban Design" (Goh, Loukaitou-Sideris and Vinit Mukhija, 2022) divides it into several domains: distributive, procedural, interactional and recognitional. The issue of exclusion here is a form of interactional injustice, in the sense that it prevents women from sharing the public realm equally with men; there is a genderized power imbalance. However, this issue also fits into what is described as "recognitional justice", which strives in particular to produce urban design which does not allow for spatial exclusion. This is a particular problem considering women's fears are underrepresented and ill-accommodated in public space in the Netherlands (Droogleever Fortuijn, 2002). As women still perceive risks due to a power imbalance in public spaces, planners are at the forefront of addressing the problem, and should strive for increasing equity (Fainstein, 2009). In that sense, it is the planners and the government who make decisions on what justice looks like in the spatial realm.

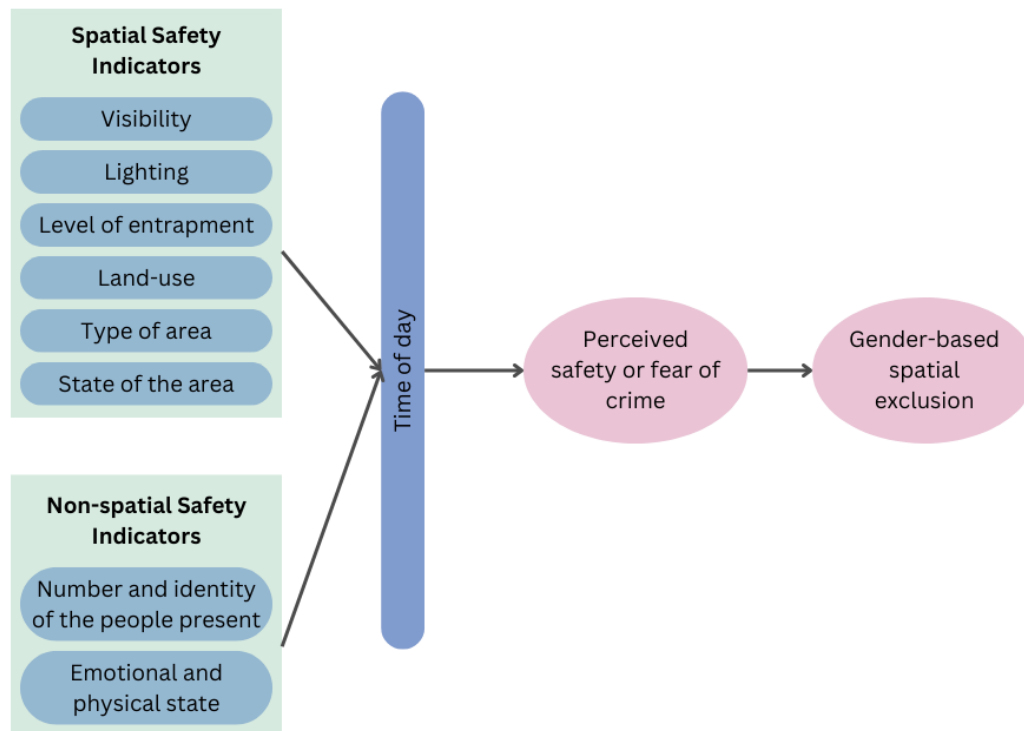


Figure 1: Conceptual Model

Expectations

In line with the aim of this research being to bring the fears of women and the consequences of them into the framework of just urban design, to pursue feminist justice and reclaim public spaces. The expectations of this study assume that most women do at times feel unsafe due to situational and spatial circumstances. By making a clear distinction between actual safety and perceived safety, as well as adequately investigating the social dimension of space, the fear-based needs of women are put in a clearer perspective; a perspective which reveals the perpetuating gendered and spatial exclusion, despite any previous policy measures taken by the Dutch government (CBS, 2022). By shifting the research gaze from actual safety to perceived safety, issues pertaining to fear can be solved more accurately.

It is expected according to the theoretical framework that these safety perceptions are reliant on:

- Visibility;

If a space is visually obstructed to a larger degree.

- Lighting;

If a space is not sufficiently visible through natural or artificial lighting.

- Level of entrapment;

If a space is perceived as narrow or dead-ended.

- Land-use;

If a space is commercial, industrial or residential.

- Type of area;

If a space is generally well-used or abandoned.

- State of the area;

If a space is well-maintained or neglected.

- Time of day.

The interviews as well as the secondary data collection will serve as ways to explain these indicators, as well as extend upon them or remove redundancies, if they do not prove as significant as expected. Some of the predicted indicators have very little to do with urban design or the spatial environment, but are expected to influence the problem nonetheless:

- Number and identity of people present;
- Emotional and physical state.

It is also to be expected that the time of day has an effect on the relationship between the other indicators and perceived safety. Nighttime lowers lighting and visibility, which may increase feelings of fear in combination with the other indicators.

Methodology

This study was conducted using an approach of mixed methods. The first step was to conduct a site analysis at the two research areas where a map has been created, indicating areas of concern where the previously established

indicators deem it unsafe. This allows for an in-depth area study to supplement information for the interviews. For this, a site observation form was used, which takes into account the different safety indicators derived from literature. The purpose of using and operationalizing concepts related to spatial justice in this research is to reinforce the relevance of the issue. By linking the power imbalance between men and women to inequality and by extension to justice, it provides a stronger, more feasible argument to pursue solutions in this field.

The areas shown in the figure 2 were picked out because of their functions and history, area 1 is mostly a transit area with a very recent history of violent crime and drug trade (Dagblad van het Noorden, 2023); area 2 is characterized by a cluster of bars and clubs. Closely observing at the street level during daylight as well as dark hours while considering the different safety indicators has resulted in comprehensive area guides supplemented with pictures which provided a framework for the on-site and

Research Area 1: South of Vismarkt



Legend
 - Streets area 1
 - Area 1 shape

Research Area 2: Poelstraat Area



Legend
 - Streets area 2
 - Area 2 shape

Figure 2: Research Areas

expert interviews, as it systematically reveals the relevant design elements street by street.

This was then followed up by the interviews, with participant who have been selected from extended personal social circles. However a sit-down and one-on-one interview with the local women cannot suffice when discussing specific design elements which may induce fear and/or avoidance. In order to collect more genuine data, these places have been visited with the participants. As this may have created a frightening environment, this approach opted for a semi-structured group interviews. Group interviews, as discussed by Punch (2013), can stimulate people to provide a deeper understanding of their personal motives and reasoning and create a situation in which it is easier to expose the truths around a problem, and consequently allow for multiple people to be present for a single interview. Within a group interview, the researcher takes on the role of a moderator who guides the discussions into the proper direction. Outputs of the group interviews have aided in the contextualization of the status-quo and in relation to the site map, provide an in depth understanding of the safety dynamics in relation to subjective perceptions of this space; as well as in combination with the map, distinguish which safety indicators influence the perceived safety more than the others.

Furthermore, professionals in the municipality as well as different organizations have been contacted in order to gather sufficient information about established and ongoing plans to increase safety through design in the research areas and to gain a clear understanding of their current views on the role of urban design in women's fears. This data elaborates on the previous stages by showing the direction of ongoing projects and the results which they aim to achieve, while also allowing to frame the exact issues which are yet to be solved.

Ethical Considerations

It is vital that, when researching a sensitive subject such as fear, the ethical considerations are especially sound. In order to protect the participants sufficiently and establish a degree of transparency, a consent forms have been signed and discussed openly with these people. These discussions as well as the signed forms are included in the transcript and the appendix. Furthermore, all data collected from the interviewees is stored in a personal google drive. After completion, the final product will be open for viewing by those who have indicated wanting to do so on the consent form, as well as the reviewers and supervisor to this project.

This study stems from a personal fear and the knowledge that it is a common phenomenon, consequentially, this means it has been conducted from an insider's point of reference. The implications of that are both positive and negative in nature; positive, in how this may bridge the power relations between researcher and respondent, resulting in more effective questioning as well as the opportunity to study personal experiences within the frame of this research. On the other hand, being an "insider" can create substantial bias and skew the meaning of the acquired data. As a part of the results, there is also a personal account of the process. Because the study is done from an insider perspective, and the impossibility to avoid bias is evident, it is relevant to consider personal accounts and experiences to further strengthen and explain the conclusions, as well as outline part of the bias. To minimize this bias and yet retain a position of conviviality, the interviews have been recorded on a personal device and transcribed plainly. Afterwards they have been coded using a mixed approach of deductive and inductive coding, to ensure the collected data remains within bounds and bias is avoided, yet leaving adequate room for discoveries and discussion to make full use of the semi-structured aspect of the interviews. The deductive codes consist of the safety indicators as a way of systematically labelling

the relevant information in the transcripts of both the group and the expert interviews.

The impact of reporting on women's fears and the injustices they face, in the positive sense could be awareness of the hidden obstacles that are ingrained in current urban design; adversely, the blatant spatial awareness of what to be fearful of, can induce more fear. In order to prevent this from happening, during the interview, the respondents have also been motivated to discuss key elements which reduce fear and create a feeling of safety.

Results

The group of women is brought to the overhang in picture 4 for the interview and are asked to point out what stands out to them about the space. They are all locals, and know the city

well, yet uncertain feelings are expressed about this area in the city center. It seems neglected and abandoned even if it is only one street away from the bustling market squares: "you do walk here from the city so easily,(...) it's a bit like you took a left turn and suddenly you're here." There is graffiti on the walls, broken windows and trash is sitting on the corners of the pavement. The lack of windows makes the women feel "trapped" and "locked in". Most would rather turn back and use a street that is more well-lit, crowded with people who leave them alone.

Safety Indicators

Through the systematic site observation, it could be concluded that the area south of the Vismarkt (area 1) is not a main thoroughfare. The land-use in this area mostly centers around



Figure 3: (from left to right) **picture 1:** little room for pedestrians to walk or view the area, **picture 2:** the sidewalks are occupied by bicycles and trash containers, **picture 3:** graffiti lines this street, **picture 4:** the overhang creates a dark and obstructed area, **picture 5:** broken windows and door lock to a house.

the back areas of the shops and restaurants just a street away. Yet, these streets are at the heart of the city center. Cars are allowed in the entirety of the area, there is a large parking garage as well as parked cars on both sides of the Haddinge- and Pelsterstraat; these obstruct visibility from the sidewalk, yet at the same time provide a barrier between the pedestrian and the street. Maintenance issues are a common theme throughout the area: broken windows, pipes, locks (from bikes and houses as well) and lights. Especially the Pelsterdwarstraat is characterized by abundant graffiti and littering, as well as an overhanging building supported by pillars, which creates a dark nook as shown in the top right picture in figure 3. The focus group noted this in particular, stating that vandalism, a lack of lighting and a lack of windows as they make up the state of the area result in them feeling

uncomfortable and trapped; this resonates with the research of Boomsma and Steg (2014), who stated that a high level of entrapment through lack of visibility, darkness and the amount of space available can have a negative impact on the perceived level of safety.

The Poelestraat area (area 2) is characterized by nightlife, restaurants and entertainment. The whole area is under CCTV surveillance and much attention is paid to the lighting. However, because Groningen is an old city, there are several tight alleyways which also host entrances to bars, a good example of this is the Papengang. The street is slightly curved, with a visually obstructed courtyard in the middle of it, tall buildings to both sides and a tree canopy covering a larger part of the street. The Papengang has recently been renovated to improve its reputation, by ways of creative



Figure 4: (from left to right) **picture 1:** a blunt cut-out from the street reveals the dark entrance to a parking garage, **picture 2:** the colourful renovations in the Papengang, **picture 3:** vandalism, maintenance issues and boarded up windows, **picture 4:** a tight walkway with a warning about surveillance that is not visible.

lighting and street art. The group was very positive about the changes, but did not at first think it completely remedies the alley's image. This illustrates how more attention is paid to the feeling, image or "soul" of the area. The perceived safety then has much to do with the history and the constructed image of what happens in alleys and what they are used for. Through observation, the courtyard within the Papengang was noted as a special feature which it shares with the "Achter de Muur" alley. These open areas are completely obstructed by buildings, which makes it impossible to view a potential risk. The group however expressed indifference towards this feature, as it was not seen as a true "dead end", one participant even pointed out that the increased space improved her feeling of safety:

"The fact that it is bigger as compared to like a very little dead end type street makes it feel safer (...), because you have all this space and you (...) can see people coming from both sides."

This reveals an interesting position towards the research by Roy et al. (2022), in which they state that visibility is one of the most important factors to consider for safety perceptions. Their study puts the focus on the 'being seen' aspect of visibility, rather than the 'seeing'. It seems according to this focus group that as long as there is a conceivable 'exit strategy', it matters more what they may be able to see, than whether they are seen themselves.

There is little CCTV surveillance in area 1, however, the impact of surveillance on the subjective feeling of safety was also very limited to the focus group. There was a pointed difference between the sole presence of CCTV and the presence of CCTV along with a sign indicating its presence. If surveillance is announced to be present in an area, it increases the feeling of safety, but otherwise women are unlikely to note the presence of cameras themselves. Though cameras are shown to have a preventative effect, more important to the feeling of safety of this group

was lighting, which poses as 'natural surveillance' (Welsh and Farrington, 2009). The group mentioned that they find that the lack of windows and people also contributes to decreased visibility the way a lack of CCTV does. The participants pointed out:

"There is like no windows, you lose out on the social control."

"Even if there are no cameras, if there are people around, that feels like surveillance enough."

This confirms the "eyes on the street" theory by Jane Jacobs (Jacobs, 1961) in the context of Groningen. In this case, the (lack of) 'eyes' belong to passers-by and inhabitants of the area. However the most discomfort, as well as comfort, was expressed around the specific composition, state and familiarity of the people present. Being part of a group is more comfortable, but on the other hand one participant stated:

"I feel like drunk people are more (...) confident to say, and do, and act a certain way, and if you are walking alone, you might be very uncomfortable walking by them."

In this sense, being alone seems significantly more unsafe than being in a group, and groups seem particularly risky when they show signs of being intoxicated or if they intently focus on an individual, however, when a group of people is not focused on the individual or intoxicated, the increased number of people appears to be a sign of safety instead.

In line with the expectations, it can be observed that the time of day has a large impact on the perceived safety in an area as well. Lack of daylight makes people dependent on artificial lighting, which is not always sufficient and can amplify a feeling of uneasiness. During the night, all perceived risks through the indicators are amplified.

In the interview with a policy advisor, concerns were expressed around substance use, which can increase the risk in these spaces. The

municipality is attempting to minimize those risks by engaging in active conversation with nighttime establishments in order to find the balance between safety and profit.

Location-wise, a policy advisor expressed that she learned through a thesis based on the 'catcalls of grunn' database, that most street harassment occurs in places where different traffic flows meet; being in a car provides a sense of comfort to the driver, as they are able to remove themselves from the situation very quickly. Where vehicle traffic meets pedestrian traffic, these situations tend to occur more often.

Gender-based Spatial Exclusion and Spatial Justice

Through the group interview it can be seen that not only does harassment cause exclusion directly, women can also be deterred from places that have a history of harassment or are designed in such a way that makes harassment easier or more likely to occur. In the same way, when these problems are solved, the perceived safety is immediately increased. Interestingly, it was not apparent that the emotional and physical state of an individual plays as significant of a role as was previously expected; it seems that the situation is manageable as long as someone is not alone while also being spared of unwelcome attention.

The group was mixed when it came to avoidance, some are more likely to avoid these places than others, opting for brighter, more open and busier spaces; others indicate they would not go out of their way to avoid this area, but feel uncomfortable nonetheless when they are there. They do view this issue as a particular obstacle when it comes to freedom of movement in the city:

"If (...) for example I have to use this street because something is closed-off (...), that becomes harder, my life then actively becomes more difficult."



Figure 5: Maintenance issues, vandalism & lack of functional windows

For women to feel a sense of fear or discomfort when they are simply present in a certain space, characterized by these physical elements, is a vital part of spatial injustice. As the municipality points out, the situation in Groningen is often less dangerous than women perceive it to be; yet these feelings are caused by- and enforced through the physical environment. It is apparent that the safety of marginalized groups is an important subject to the municipality, but women in particular do still experience instances of public harassment, which is also deemed an injustice by this participant:

“It comes with a feeling of unsafety which causes women to alter their behavior, and that is something that should not be allowed to happen. We express that everyone is welcome and that everyone should be able to be themselves.”

This quote from the interviews confirms the research of Koskela (1999), once harassment causes a change in spatial behavior it becomes exclusion. It can also be described as a lack of comfort in public spaces exclusively experienced by only a part of the population because of factors beyond their control. It is mostly through popularized media waves that this topic has gained enough traction to be seriously considered; it is largely impossible for a municipality to be the sole investor in spreading information on the harassment of women. In that sense, they express that the definition of justice cannot only be decided by the authorities, it has to align with the ideas and beliefs of the people in question. Which is a good way to exercise the notion of recognitional justice (Goh, Loukaitou-Sideris and Vinit Mukhija, 2022). Nonetheless, when women and girls continue to be excluded from public spaces due to fear for their own safety, this inhibits their freedom of movement, which is an official human right (United Nations, 1948). The role of the municipality here is to put concrete measures to work for the ideas and beliefs of the people, which differs from the previously expected role of planners acting

as pioneers (Fainstein, 2009). However, this may be a more realistic approach. On the other hand, they do not only put effort into delivering the right information to potential victims and perpetrators and taking the right measures, it is also deemed crucial to inform colleagues in other departments so they may shift their perspective and take the safety of women into account more.

New and Ongoing Projects and Plans

Through efforts of the municipality, new and ongoing projects have taken specific elements such as lighting and visibility much more serious. Surveillance policies are adjusted to the nighttime situation and police, restaurants and bars are heavily involved in these decisions. The redevelopment of the Grote Markt is a good example of a project which aims for a multitude of targets, such as an increased focus upon the historical qualities of the square as well as the “experience” of the people making use of that space (Project group Grote Markt, 2020). The project is focused on changing the use of the square as a thoroughfare, and inspire more people to stay; attention is then paid to the experience of safety on the square as well as the amount of comfort. The project aims to incorporate more green to make the space more inviting, as well as focus on sufficient lighting at nighttime (Project group Grote Markt, 2020). In order to do that, they propose a type of “zoning plan”, in which the square is divided into different uses, which are stimulated by differences in lighting during the night, mostly inspired by the Sechseläutenplatz in Zürich. Overall, this project attempts to encapsulate the full meaning and usage of a square while retaining historical qualities and stimulating pedestrian traffic and inclusive use. A project of this magnitude clearly benefits from taking a holistic approach. There is also an increased focus on the alleyways in Groningen in an attempt to increase their safety. The interviews show that women are indeed less likely than men to make active use of these areas, this is something that the municipality is actively aware of and deems unjust.

Another plan which was expressed by a policy advisor is a common suspension policy. Which employs the use of surveillance and security to ensure that if someone is suspended from a restaurant, bar or club for misconduct, it becomes harder or impossible for that person to enter another such establishment that same night or for a time after. This makes effective use of the preventative qualities of CCTV shown by the research of Welsh and Farrington (2009).

The completed project in the Papengang, which was visited with the group interview, was initiated by a former night mayor. The group expressed that the alley was previously much more confined and dark, and that the art makes an incredible difference. The project showed a positive impact on the group's perceived safety, but one participant admitted that she did not think it was sufficient. The identity and behavior of the people who are likely to go to this area as well as the alley's history still affect their safety perceptions.

A lot of focus is put on making people aware of the actual safety in the different areas of the city, which tends to be much better than individual estimations of it. Spreading this kind of information through campaigns is something the municipality is keen on doing, along with advocating for proper behavior in public spaces. An example of that are the 'orange the world' spotlights in two of Groningen's catcalling hotspots, which is an activist campaign fighting violence against women and girls, by bringing more awareness to the impacts of catcalling. The same advisor also stated that lighting can make a significant difference in this. A certain amount of light has a regulatory impact on the behavior of people. This is reflected in research, as an increased amount of streetlighting can reduce crime and nuisance (Farrington and Welsh, 2007).

Discussion

During this journey, the research areas were visited on multiple occasions, and observed closely as described in the methodology. Through this it became increasingly evident

how important this study has become on a personal level, as it was necessary to continuously shift perspectives from the researched to the researcher. At times this perspective forcibly shifted back as a result of two accounts of experienced verbal harassment. Experiences such as these invited only one of two reactions: fleeing, and not fighting back, and afterwards investigating how the space could be better adapted to prevent it. Lighting and visibility mainly came to mind, based on the findings in this study.

From the interviews can be interpreted that lighting, visibility, level of entrapment and the state of the area are, according to local women, the most influential indicators of safety that are centered on the physical environment. However, the identity, behavior and number of people present in the area is also incredibly prominent in deciding whether an area can be considered safe or not. The actual safety has more to do with whether there is a combination of different traffic flows, which tend to increase public harassment. Any of these factors are highly influenced by the time of day, during the night, all factors are more influential as laid out in the expectations. Despite CCTV showing a preventative effect on crime rates (Welsh and Farrington, 2009), it has little effect on the perceived safety of a space. The interviews showed that participants mainly prefer a higher visibility and more lighting out of all safety indicators, but more so from their own point of view. This can be achieved through sufficient artificial lighting and lower entrapment levels in lesser amounts. This is in line with the findings in other research, as risk perceptions decrease in areas with increased lighting and lower entrapment (Boomsma and Steg, 2014). This increase of space even when it is a visually obstructed courtyard seemed to increase safety perceptions for the participants. This is a significant finding as it opposes the expectations which previously stated that if a space is visually obstructed, it would decrease the feeling of safety. This implies that as long as the individual is capable

of overseeing or expecting the larger space, their safety perceptions are higher than when the entirety of it is entrapped. Notably, vandalism stimulates the feeling of being entrapped. Similarly, research shows that single signs of vandalism have little impact on a person's perceived safety, on the other hand, the combination of vandalism or graffiti with other indicators of a lack of safety do show to have an impact (Abed & Aljibarat, 2023) this is reflected here as well.

Current projects on a large scale, such as the remodeling and re-imagining of the Grote Markt take safety seriously as the focus applied by authorities is increasingly holistic. Different departments of the municipality are responsible for educating their colleagues in order to have the best decisions made. Additionally, the municipality launches and aids campaigns to bring the actual situation around safety into the light, alongside designing policies in cooperation with police and nightlife establishments to further increase a sense of security during the nightlife.

Through conversations with peers and experts it became evident that there are only so many physical measures that can be taken. It is impossible to find a complete answer only in urban design, which is why so many current projects employ physical as well as policy and institutional design in order to embody the actual physicality as well as the social construct of a space.

Conclusions

It has become apparent that planning for the safety of women and girls is increasingly important because at the root of the problem is a severe injustice. The change of spatial behavior to avoid violence and harassment is less of a choice than it is a compulsion as fear is never a voluntary reaction. Not only does the municipality advocate a right to freedom of movement which is still inhibited by fear, freedom of movement within state borders is declared in article 13 of the Universal

Declaration of Human Rights by the United Nations (1948).

From the safety indicators it was found that visibility and lighting are the most important to signal a safe space, followed by the state of the area. Well-maintained buildings, streets and squares indicate areas of lesser misconduct which reduces feelings of discomfort and fear in women. The discomfort and fear of being harassed prevents women from using the full extent of public space and can therefore be seen as spatial exclusion based on gender. Current plans and projects focus on re-educating people on the actual situation around safety, which tends to be better than the perceived risk. Additionally, large remodeling projects are increasingly focusing on inclusive safety and comfort. Which leads to answering the research question:

How do different spatial elements in public spaces affect the safety perceptions of women between the ages of 18 and 30 and lead to gender-based spatial exclusion in the inner city of Groningen?

Fear is produced and perpetuated by the environment as spatial elements are at the root of assessing the safety of a space. Lack of visibility makes women feel trapped, a lack of lighting amplifies this. Neglected areas showing signs of vandalism and misconduct are direct reminders of illegal activity, which decreases perceived safety. Though the "actual" situation may not be that dangerous, these uninvited fears prevent women from using public space and can therefore be considered exclusion.

Future research should focus on specific policy measures in combination with physical changes to the environment in order to find the best possible ways to aid women and girls in reducing these systemic fears. Additionally, there needs to be more research on spatial justice within a broader view on human rights violations or inhibitions as well as the effects of media on the policy domain and the effects of art or street art on safety perceptions. Planners and their projects should focus more on

maintenance and the state of present buildings, as well as continue to consider and strive for holistic perspectives and take inspiration from successful international designs.

Despite having an insider perspective, this case study expands well upon previous research and plays a more confirmative role in modern day issues. More data could have been collected were it not for the time constraints and at times lack of active engagement or correspondence of potential participants, however, the engagement with the included participants has been extremely productive. The process has been incredibly rewarding.

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Appendices

Interview guide - professional

The aim of this interview is to firstly gain a clear understanding of their current views on the role of urban design in women's fears and then secondly to link it to ongoing and future plans to enhance safety in the research areas. The participant will be provided with the research area maps as well as a comprehensive consent form.

Warm-up

1. *Could you introduce yourself?*
2. *Are you originally from the city, or somewhere else?*
3. *How long have you been working for the municipality?*
 - a. *What is your favorite part of your job?*

Interview

1. *My research is about the role of urban design from a feminist perspective, particularly how it can perpetuate fear and anxiety in women. This subject would be a clear example of feminist geography. To what extent do you think it is necessary to specifically consider women's fears in social safety?*
 - a. *What do you mostly watch out for when doing your job?*
2. *Considering the role of urban design, you could think of a lack of lighting, visible obstructions, a lack of surveillance or signs of vandalism that can induce fear or avoidance, particularly in women. Do you pay specific attention to these things when planning for safety? How does that translate into your work?*
 - a. *Are there other things you watch out for in this regard?*
 - i. *Continued questioning about those things*
 - a. *Do cameras actually help prevent bad situations from happening, or are they solely there to deal with the aftermath?*
 - b. *When placing surveillance cameras, what are the things that determine where it should be placed and when?*
3. *I am trying to map out safety in this area, with that I pay attention to current and future plans and projects as well. Are there any ongoing plans or projects within these research areas which aim to improve the overall safety that you can tell me about?*
 - a. *Was there a specific reason to initiate this plan in this particular place?*
 - b. *Was there any specific attention towards the female perspective with this plan/project*
4. *Thank you for answering my questions, do you have anything else you would like to add?*

Interview guide - focus group (semi-structured)

The aim of this interview is to gather in depth insights into women's fears and anxiety relating to public space, and how this leads to gender-based spatial exclusion. Because it is semi-structured and requires input from data that is still to be gathered as well as from the participants themselves, it will focus mostly on topics and themes rather than pre-formulated questions, even if they are suggested, they may not be used in favor of better situational questions.

Introductory round

All the participants are welcomed and they are asked to introduce themselves by their preferred name which will be included in the transcript. They are asked whether they have read and filled out the consent forms and are reminded that they can stop and/or leave at any time they wish to. They are reminded of the purpose of the interview and they are encouraged to share their own experiences as well as react to other people's stories. I remind them at all times that they are encouraged to openly and truthfully share their opinions.

The interview starts in an open public space, after which the participants are walked around the research area.

Themes and topics

Perceived safety

- ***Without taking a detailed look around the space, can you tell me whether you feel safe or not?***
- ***What stands out to you?***

The participants are encouraged to react to each other and debate what they think makes them feel safe or unsafe here.

Safety indicators

At a natural point, they are made aware of the design structures in this space that may make them feel unsafe or are designed to make them feel safer.

- ***If these elements are changed for the better, so you can think of better visibility, more shops, would you feel safer? Can you indicate how much?***
- ***Do you avoid these kinds of places? When? Why?***
- ***What physical element has the most impact on your feeling of safety?***

The participants are led around to answer these questions at different locations within the two research areas and encouraged to speak up when they notice something related to their safety perceptions or safety indicators.

Gender-based spatial exclusion

- ***Why do you think it is mostly women that are likely to avoid certain public spaces?***

This question is meant to probe a discussion on gender issues.

- ***Are spaces inherently gendered? By that I mean, are there different "rules" for men and women when they occupy public spaces?***

- Do you perceive being deterred from a public space as exclusion based on gender? why/why not?

Closure

The participants are thanked and invited to have a small get together to end the discussions on a good note, and to remove them from a possibly uncomfortable situation.

Site Observation: Safety Assessment	
General Information:	
<i>Area context</i>	
Safety Indicators:	
1. Visibility:	
<i>Are there obstructed sightlines?</i>	
<i>Assess the clarity of the sightlines, to what extent are people seen by- and can they see others?</i>	
<i>Note any visual barriers within the area.</i>	
<i>Note any surveillance cameras.</i>	
2. Lighting:	
<i>Assess the quality and quantity of lighting, is it dark, dim, fair or bright? Is it the same throughout the area?</i>	
<i>Identify areas with poor lighting or dark spots.</i>	
3. Level of Entrapment:	
<i>Identify spaces where individuals may feel trapped or isolated.</i>	
<i>Note the design elements that cause this feeling.</i>	
4. Area Type and Land-use:	
<i>Categorize the area type (residential, commercial, recreational etc.).</i>	
<i>Note excessively gendered spaces within the area. (if any)</i>	

<i>Identify any land-use which dominates the space.</i>	
5. Physical State of the Area:	
<i>Inspect the physical condition of the area, note any signs of vandalism or empty buildings.</i>	
<i>Note other maintenance issues.</i>	
Additional Considerations:	
<i>Pay attention to- and note any historical or anecdotal information regarding incidents or safety concerns.</i>	