

the lonely city hum

soundscapes of (young) urban loneliness

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creative research on
where **loneliness** and
urban sounds meet



Thank you!

I would like to start by thanking Alana Osbourne for allowing me to think creatively while supporting and inspiring me throughout this thesis. Thank you for your patience, thinking along and critical reflections.

This research would not have been possible without those that submitted recordings in vulnerable moments, those that helped me get back on track and those that helped me understand (sound) design. Thank you for your honesty, support and insights.

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Introduction

Urban life is hectic, busy and overwhelming at times. Even more so when you find yourself overwhelmed by the smallest bits and things – my jacket being too cold and too hot at the same time, lights being too bright, the tram ringing its bell one too many times, the wind blowing my hair into my just applied lip gloss or my bike squeaking every 30 seconds. This (exhausting) example I just illustrated sketches my day-to-day struggle when roaming the streets of my beloved Amsterdam, the city I was born, and grew up, in. Most overwhelming, for me, is the constant stream of urban sounds and noises, more so than my other senses. Paradoxically, this sensorial (over)stimulating everyday life makes me feel at ease and home at the one hand, whilst on the other hand triggers, stresses and overstimulates me often.

I am convinced that life in urban and rural areas differ significantly in many ways, one of which is the difference in sensorial experiences of its inhabitants in how they experience and navigate their sensorial surroundings. The difference in how one experiences everyday life through their sensorial experience interests me and is one of the points of departure for this thesis. While the urban sensorium might influence me in everyday life (in both a positive and negative way), some people might not even be aware of this or enjoy the sensorial tales every city tells.

Apart from being interested in urban sensorial experiences, urban mental health and urban wellbeing is something I am interested in as well – more specifically, the rise of urban loneliness amongst young people nationally, locally and amongst my inner circle interests me. How come young people in cities generally tend to feel lonelier than their peers in rural areas?

Loneliness is not a happy topic. It relates closely to people's emotional world – their hidden and private inner life. And it is something that is felt often, but hard to define, hard to discuss and hard to deal with. Important to note is that feeling lonely does not mean you have no friends, confessing to feeling lonely does not make your friends' efforts less valuable and feeling lonely is not something to be ashamed of. However, besides this

personal dimension of the emotions associated with loneliness, there is a strong collective (sensory) experience of urban spaces as well. According to Cowan & Steward (2007) sensory experiences of cities are not individual by heart, but shaped and shared by societal norms and cultural practices – they are intertwined with social and cultural life in cities. Making emphasis on sensory urban experiences thus even more useful.

Discovering urban loneliness through an educational lens is close touches upon personal experience with feeling lonely, feeling left out and wondering what is wrong with me. I have never thought about the impact of urban life on my mental wellbeing, thus reading about the collective dimension of sensory urban experiences highlights the importance of this research. While exploring the urban sensorium and feelings of loneliness amongst urban young adults, I also wanted to explore the opportunities non-conventional research methods offer – exploring how to make this highly personal and vulnerable experience of feeling lonely tangible and experienceable.

Despite loneliness growing amongst many groups in society, the urban sensorium and loneliness have mostly been explored in separate bodies of literature, the direct connection between the two of them has been researched to a lesser extent. Meanwhile, this research also focusses on exploring how academic research, creative research methods and a creative final outcome can be combined and contribute to one's (my) personal educational development and view of academic education. This thesis therefore aims not only to explore loneliness amongst young adults in Amsterdam, it aims to unfold the value of exploring the sonic dimension of urban life and its consequences for those living there. With a primary focus on using creative research methods, the driving question of this thesis is:

How does creative sonic research contribute to existing knowledge on the experience of urban loneliness and its sensorial dimension amongst young adults in Amsterdam?

However, this thesis will not only focus on researching the sonic dimension of loneliness amongst young adults and the usage of creative research methods, it explores the

possibilities of making research findings accessible and tangible for a broader audience to promote accessibility and inclusivity. This will be done through combining more conventional ways of research reporting (i.e. written thesis) with a creative final output. The final creative product includes sounds of loneliness collected by research participants themselves.

This thesis first reviews current literature on urban loneliness, the interplay of sounds and wellbeing and urban soundscapes. It then reflects on the (creative) research methods used. Next, the results are presented through an auditory lens (lonelycityhum.com), after which a written conclusion will follow.

2. Theoretical framework

In order to establish how the usage of sonic research methods can contribute to existing knowledge on the experience of urban loneliness and its sensorial dimension amongst young adults in Amsterdam it is important to gain more insight into the current state of literature – what is known about urban (sensorial) life and urban soundscapes, urban well-being and more specifically about loneliness as part of general urban well-being. This theoretical framework is divided in to three sections, discussing urban life and soundscapes first, sounds and wellbeing after and finally, discussing loneliness as part of urban wellbeing.

2.1 Urban life and urban soundscapes

The first part of this literature review on urban life, its sounds and urban loneliness highlights how urban life impacts feelings of loneliness. One of the central themes in this thesis is the urban sensorium (Degen, 2014; Bull et al., 2006) – cities as not just physical spaces but sensorial environments, shaped by power structures and social structures. The sensory city is thus not only an individual affair but embodies a broader political, social and cultural dimension within urban life.

2.1.1 Urban life and the senses

Urban life is experienced in many different ways – urban centers are seen as prime location for leisure (MacDonald et al., 2020) through one lens while another approach states the negative impact urban living might have on mental health (Collins et al. 2024). These differences in views on urban life are caused by the highly influential effects of social and environmental factors on the experience of urban life. These social and environmental factors impact individual, and collective, experiences of urban life. This section discusses urban life and the senses more broadly.

Approaching urban life from its physical fabric, population composition and social infrastructure it seems that that individuals endure social implications due to living in urban environments. Cities thus impact their inhabitants and visitors. Louis Wirth (1938) discussed the social implications of urban life more thoroughly, in his paper "Urbanism as a way of

life”, describing the ways in which living in a city determines everyday life. One of the key elements in this paper is the influence of anonymous city life on the mental wellbeing of its inhabitants. Stating that urban life results in primarily impersonal, superficial and transitory interactions between citizens. Even when citizens meet face to face, they do so in segmented roles and thus require more secondary contacts to fulfill their everyday social needs than people in rural areas, who might encounter more primary contacts in their everyday lives. Unlike primary social contacts, secondary social contacts are utilitarian, formal and impersonal relationships, while primary social contacts are those one has a personal and emotionally significant relationship with.

Not just the social dynamics in cities differ from rural areas, the way urbanites and non-urbanites live their everyday lives differ as well. According to Georg Simmel (1903) urbanites have a city-specific way of navigating through life. Urbanites live with a self-taught blasé attitude, an attitude that determines social relations in every day urban life. Blasé attitude offers interesting insights in how urbanites navigate through everyday life. In order to stay sane, urbanites lose interest in the distinct stimuli of urban life. The overwhelming number of stimuli they encounter on day-to-day basis are not fully processed and let in by their brains, as a result, they shut off perceiving some of the stimuli cities offer.

According to Georg Simmel, shutting of the perception of these stimuli creates urbanites without their own peculiarities or uniqueness. In his perspective, city people are therefore grey and boring people, focused on self-preservation. Even though this almost caricatural view on those that live in cities has been widely criticized and stems from over a century ago, his work underscores the influence of the senses and stimuli in urban life – an essential part of this thesis. Those that inhabit cities present day still inhabit these mechanisms when encountering the constant stimuli of urban life – resulting in a lesser sensitivity for what happens around them.

This view on urbanites, their characteristics and the overwhelming number of stimuli to be processed at any given moment offers interesting insight when considering the city from a mental wellbeing perspective. More so, the blasé attitude and the focus on self-preservation

might contribute to the more individualistic character cities are known for – cities tend to have an individualistic character with less solidarity and less close-knit social relations (as described by Wirth, 1938) than life in rural areas.

The framework, provided by, Wirth (1938) and Simmel (1903) provides a valuable perspective on how mental wellbeing and urban attitudes are influenced through the urban structures around without us perhaps even noticing. The general framework of urban social theories drawn up here offers insight in the complicated relationship between the social and the urban and their multifaceted character. Literature on the blasé attitude, potential risks of urban life and social networks within urban areas underscore the possible city-specific influence urban life might have on mental wellbeing.

2.1.2 Urban soundscapes

The previous section describes urban life, urban attitudes and the risks urban life might pose to mental wellbeing. However, this thesis does not merely focus on the connection between urban life and loneliness. It aims to uncover the sounds urban environments produce as well as the effects these sounds might have on those living in cities. Atkinson (2007) pleads for enlarging awareness of how those living in urban environments are impacted by their sonic environments and associated social-spatial implications.

Cities are rich sites of auditory experiences. Heels clacking, cars pulling up and mumbled conversation are examples of the ways in which we experience the city through an auditory scope. There is a great variety in noises and sounds – intentional or non-intentional – in the city. Since this thesis studies the acoustics Amsterdam produces, it is interesting to uncover soundscapes and sound studies – studying the relationship between sounds, humans and their surroundings. Soundscapes, more generally, illustrate what the environments surrounding us sound like, while sound studies, for example, acoustic ecology (Schafer, 1977) review the interplay of people (and other organisms) and the sounds surrounding them.

The term soundscape can be described as all noises and sounds surrounding us combined: the auditory component of a landscape. Schafer (1977) uses the term soundscape to describe the elements that shape our surroundings from an acoustic perspective, he describes urban soundscapes as complex sonic environments. Meanwhile, Atkinson (2007) describes soundscapes in a more comprehensive way: soundscapes as means to reinforce social and spatial boundaries in the city.

Urban soundscapes include all sorts of sounds: from natural and environmental sounds to human-made sounds. According to the work of Raimbault & Dubois (2005), who write about the experiences and knowledge of urban soundscapes, environments are always perceived through a multi-sensory setting – all senses interact to form judgements on what surrounds us.

Raimbault & Dubois (2005) specifically focus on urban soundscapes, integrating all sound variations in space and time through individuals' experiences. The term soundscape is used in a slightly different way than described by Schafer (1977), they incorporate the influence the layout of the urban area and various sound sources have on perception of sounds. In this work, soundscapes are considered to be variable entities, in space and time as well as in global or local situations. Soundscapes are composed of various sounds, including general background sounds, noise, nature sounds or human-made sounds. For example, the hum of traffic, ambient sounds of people on the phone or kids playing in a park.

Understanding the complexities and variabilities of urban soundscapes creates the ability to deeper understand its impact on general urban wellbeing and highlights the social relevance of soundscapes. Soundscapes are the basis of this thesis, using them as scientific research method. Soundscapes are not just background noise; they shape the perception and experiences of the cities we live in.

2.1.3 Sound studies

There are different theories on the relationship between sounds, humans and their environments. All of these theories highlight different perceptions of sounds and the

interplay between different factors. Most of these theories play with the idea of a sound-based ecology, ecology being the relationship between organisms and their environments.

Besides unveiling the term soundscape, composer R. Murray Schafer (1977) also coined the term acoustic ecology: the study of sounds in relation to human life and societies. His work, "The Tuning of the World", reflects on hi-fi (nature and quieter sounds) and low-fi ("noisy" urban sounds) sound environments – the main message his research conveys is that we should learn from nature sounds in order to create more pleasant urban soundscapes. More recent research on acoustic ecology and sounds has critiqued Schafer's views on acoustics due to its focus on aesthetics and good versus bad sounds while undermining the impact sounds may have on the complex social and political implications on urban life (Thompson, 2017). Despite the criticism Schafers' work (1977) has endured, his writing on the relationship between sounds and environments has been groundbreaking and brought great attention to the influence of sounds on people's wellbeing.

Further extending on the work of Schafer (1977), Pijanowski et al. (2010) apply a more scientific approach to studying soundscapes from a "soundscape ecology" perspective. Their work primarily states that even though the work of Schafer is helpful in understanding (urban) soundscapes, Schafer's writing does not fit within the field of ecology but rather is a study of natural sounds and the ways in which people respond and value sounds.

"What is soundscape ecology?" by Pijanowski et al. (2010) aims to fill in the gap between ecology and the writings of Schafer on sounds and environments by including atmospheres, human systems, natural environments and built environments into soundscapes. Their work focuses on the dynamics all of these sound factors produce while aiming to uncover patterns and processes of sounds in diverse environments. Composer and sound ecologist Hildegard Westerkamp (2002) perceives soundscapes from a different perspective, while dedicating her research to the World Soundscape Project, she suggests that soundscapes can be evaluated as an artistic sonic transmission of meanings and perceptions. In this perspective, soundscapes emerge from artistic, sonic transmissions of meanings about place, time, environment and listening perception – with the ability of soundscapes to build

interdisciplinary connections. This is an example of how Hildegard Westerkamp uses her work to analyse acoustic environments from a composer's perspective and encourages listeners to listen to environments through space and time.

The works of Atkinson (2007), Schafer (1977), Pijanowski et al. (2010) and Westerkamp (2002) are an inspiration for this research – encouraging individuals to listen to their surroundings. Combining arts, the senses and science to create better (and healthier) environments forms the inspiring backbone of this thesis.

2.2 Sounds and wellbeing

The sounds surrounding individuals play a significant role in influencing their well-being, influencing both psychological and physiological responses. This relationship between sound and human experience is central to psychoacoustics – exploring how we perceive and react to sounds surrounding us. The World Health Organization underscored the effects of sound exposure in a report from 2022: long-term exposure to noise can even cause disease, sleep disturbance and hypertension – the urgency of considering sounds when analysing urban public health is thus underscored.

Seeking ways to make (urban) environments more enjoyable and lessen the negative effects on general wellbeing, the Urban Soundscaper could play a significant role according to Radicchi et al. (2020). The Urban Soundscaper focuses on environmental acoustics and its influence on those subject to these sounds. The Urban Soundscaper is concerned with sounds as a social component of urban environments, aimed to change and enhance the quality of city life. From the perspective of the Urban Soundscaper, acoustic sensitivity is a great asset in urban planning and promoting (collective) wellbeing.

Acoustic biodiversity is considered to be a crucial part in achieving healthier sounding cities: incorporating green and nature in urban environments, resulting in healthier sounding urban environments (Radicchi et al., 2010). Aiming to achieve healthier sounding environments, a balance between biophony (biological sounds) and entrophony (human made sounds) should be balanced out evenly (Pijanowski et al., 2011). This offers interesting insight in how

sounds should or could be balanced in our environments in order to create healthier and happier surroundings.

A sound-specific approach to urban environments and urban wellbeing generates a multidisciplinary perspective to evaluating and improving the quality and specifics of urban life.

2.3 (Urban) loneliness

This theoretical framework has now discussed the urban sensorium and urban wellbeing. This final part of the literature review will elaborate on loneliness as a dimension of wellbeing.

In trying to understand loneliness, it is important to first define it. Humans can be seen as social creatures, seeking a place of belonging. When they fail to satisfy this need to belong, loneliness can occur (Morrison & Smith, 2017). Loneliness is inherently connected to (a lack of) social life and is experienced when a lack of social contacts is perceived by an individual. This lack of social contacts is not necessarily having no friends or social life, rather, it is having less (close) social relations than desired. Loneliness is something anyone you encounter might experience – when someone has many friends but lacks a specific connection with someone, they might still feel lonely. Loneliness is thus highly personal and experienced differently by everyone.

Despite the highly personal nature of loneliness, a general categorization of loneliness is drawn up by Dykstra (2009), dividing loneliness in emotional and social loneliness. The division of emotional and social loneliness was first coined by Robert Weiss (1973) in his typology of loneliness, describing six social needs that (when unmet) contribute to feelings of loneliness. The six social needs are: attachment, social integration, nurturance, reassurance of worth, sense of reliable alliance and guidance in stressful situations. Emotional and social loneliness can be distinguished as follows: emotional loneliness entails the lack of close relations with one or more person(s) while social loneliness is caused by a more general lack of embeddedness into a social network. These different forms of

loneliness result in different reactions – within affective relations and through general coping mechanisms.

Determining the impact or exact root of loneliness is a difficult task, as the causes and effects of loneliness often tend to be the same. Even though anyone can experience loneliness, some groups are more prone to the risk of loneliness than others. Peplau and Perlman (1982) distinguish two causes of loneliness: precipitating events and predisposing factors. Precipitating events cause loneliness through changes in an individual's social life – an active change in someone's social life (e.g. ending of a relationship or physical separation) while predisposing factors describe a change in an individual's social needs or desires. Loneliness is thus being triggered through changing relations or changing social needs, resulting in unfulfillment of one's desired social needs. In addition to precipitating events influencing one's vulnerability to feelings of loneliness, personal and situational factors also contribute to one's vulnerability to loneliness. These predisposing factors determine someone's threshold in establishing new social relations, (unconsciously) setting a higher threshold thus results in possible increase of feelings of loneliness. Personal characteristics, cultural and situational factors all contribute to one's social threshold, vulnerability to loneliness and the chances of someone feeling lonely.

More than just triggering an emotional response, loneliness also affects people's health. People with insufficient social relationships are more prone to living unhealthy lives (Holt-Lunstad et al., 2010). Aiming to relieve the strain of urban life on (mental) wellbeing, social-relationship based health interventions (such as promoting social interaction) should be just as important in promoting enhancement of quality of life as other health campaigns (e.g. quitting smoking) to reduce the prevalence of loneliness in urban environments. A lack of social relations, tightknit social networks and thus lonely cities might result in unhealthy cities and therefore might pose a risk to general collective wellbeing.

Above section sets a general framework on (urban) loneliness, the causes of loneliness and the implications of loneliness in a more general sense. Dissecting the characteristics of loneliness and aiming to set a 'framework' of loneliness – apart from the emotional response

that is inherently connected to loneliness. This thesis does not aim to deeper unveil the elements of loneliness, but rather provide a more general sense of what loneliness can sound like in urban environments.

3. Methodology

This study aims to research urban loneliness amongst young adults in Amsterdam, but even more so, it aims to explore ways in which scientific topics can be researched and presented through a creative lens. This methodology section thus touches upon creative research methods, these methods are of great importance in answering how creative sonic research contributes to existing knowledge on the experience of urban loneliness and its sensorial dimension amongst young adults in Amsterdam. This methodology section more comprehensively explains the creative research methods used, their benefits and discusses presentation of the collected data.

3.1 Research design

This thesis on sonic urban experiences follows a qualitative, exploratory approach. It seeks to combine the qualitative research method of diary research and creative research methods. Besides gaining more insight in the personal and inner world of participants, this research also aims to explore how creative and sensory research contributes to knowledge on the sensorial experience of loneliness in urban environments (Amsterdam). The research question in this thesis is thus: *How does creative sonic research contribute to existing knowledge on the experience of urban loneliness and its sensorial dimension amongst young adults in Amsterdam?*

The focus on participant's inner worlds and intimate emotions asks for a subjective and reflective means of research. This research uses diary research (3.3.2) to highlight on individual's personal narratives, not through participants telling their stories, but through listening to their everyday experiences of loneliness.

3.2 Participants

This thesis focuses on young adults—defined as individuals aged between eighteen and twenty-five (ANW, 2025). Young adults are fully emerged in the process of becoming an adult – leaving their childhood behind. In the years of being a young adult, life changes significantly.

The research population was selected based on insights from the report *De Staat van de Stad Amsterdam XII* (Gemeente Amsterdam, 2023), which outlines current trends in participation and livability in Amsterdam. According to the report, 11% of young adults in Amsterdam experience severe mental health problems, compared to 9% nationally—indicating an above-average prevalence in the city. Interestingly, the level of severe loneliness among this group aligns with national figures, with 27% of young adults reporting profound feelings of loneliness. These statistics prompted personal reflection: how do these experiences compare to those of my own friends and acquaintances?

The soundscapes designed through this thesis are thus specific to young adults, reflecting their sonic experiences navigating their daily lives in an urban environment. It reflects their experiences in being between child- and adulthood.

3.3 Research methods

3.3.1 Creative research methods

Creative learning and creative research methods view education and research from an alternative perspective: instead of focusing primarily on academic standard and educational guidelines, it considers meeting these standards from a new angle. Even though these methods aim to break existing constraints and rules set by conventional academic research methods, the usage of creative methods actively contributes to new and inspiring outcomes while contributing to answering contemporary questions that require more than conventional methods alone to be answered (Kara, 2020). Creative research methods might uncover more delicate and detailed findings than conventional methods do. Important to note is that creative research does not necessarily have to be innovative research, meaning that the research principles of conventional research (such as ethics and do no harm) remain of the utmost importance. One of the main features of creative research is resisting categorial thinking and breaking boundaries, resulting in a changing combination of different methods, approaches and ways of thinking.

Creative research methods often entail a great variety in methods and techniques used, creative research methods are thus often related to mixed methods. Aiming to break binary thinking, creative research methods are about more than just qualitative or quantitative methods. Determining what mixed methods in creative research methods exactly imply is therefore difficult to establish. This research combines different research methods as well, less so in either a qualitative or quantitative way, as fits within the creative research methods approach. Even though creative research methods are often associated with being innovative or different than other research, this is not always the case. Creative research methods aim to cater for different (more creative) ways of research; however, this does not mean conventional research methods are inherently non-creative. Therefore, it is important to note that creative research methods do not diminish or ban traditional research methods, often, traditional and creative research methods are combined.

This thesis's introduction briefly touches upon the usage of creative research methods: my personal educational goal as well as engagement of a broader audience. Challenging myself educationally through exploring creative research methods is one of the objectives of this thesis, meanwhile, aiming to reach a broader audience results in the aim to present data in a creative way. This methodology section thus touches upon both data collection and data presentation.

3.3.2 Diary research

Before starting to conduct research and collecting my own data, a thorough literature review was done. Aiming to discover what has already been written about sonic environments, the influence of sounds on human beings and the lonely places cities tends to be at times. The aim was to fully comprehend what had already been written, understand the effects of urban environments on wellbeing and further understand sound studies.

Thinking of ways to approach this research and finding a way to take a glance at the inner personal and private lives of anyone participating in this research, the aim was to find a method of research that would give insight in the inner lives and private emotions of participants. Researching intimate moments in people's lives can be challenging

(Alaszewski, 2006). However, usage of diary methods makes it possible to collect data from the most intimate thoughts and moments in a participant's life. In diary research, participants are asked to record their personal experiences over a specific period of time, to gather insight in their daily lives. Due to the possibility to record in their own pace and time, the data gives a more intimate insight in contexts and experiences that might not easily emerge through interviews or observation (Bryman, 2016). In this thesis, diary research is approached from a sensory perspective.

Bartlett and Milligan (2020) describe the potential of a sensory approach to diary studies as enabling the possibility to facilitate the understanding of embodied practices in day-to-day life. Unveiling these embodied experiences offers interesting insight in a participant's life, by gaining insight in more intimate and dynamic moments. More so, sensory, or non-discursive, methods relieve participants of having to fully explain or articulate their practices or emotions through writing.

3.4 Data collection

Aiming to grasp the sense and sound of loneliness amongst my peers, living in Amsterdam, this thesis researches young adults and their sonic sense of loneliness. The age range within this demographic is hard to define, for this research, the age range is set at young adults between 18 and 25 years old. Participants were recruited through voluntary response sampling, having people volunteer rather than asking people to participate myself. This voluntary response sampling was done through messages on several social media platforms, sending messages in big group chats and participants encouraging their peers or network to participate in this research as well. Despite the highly sensitive nature of this research, a total of 10 people participated by uploading their recordings, some uploaded a lot of recordings while others just uploaded a few.

Sampling in my own network while using a voluntary response sample poses the risk of exclusion of people that are not within my (in)direct surroundings as well as posing the risk of biased sampling, with some people being more likely to participate than others. Self-selection poses a risk in using voluntary response sampling, people with certain

characteristics or strong opinions might be more likely to participate. Reflecting on my own position in this process, my own personal background and social environment have shaped the way I interpret and designed this research. The results and demographic studied therefore may reflect a perspective close to my own perspective – thus creating less generalizable findings. For context, this sample exists of mostly highly educated participants – half of them female, the other half male. They are aged between the ages of 22 and 26 and differ in both social and ethnic background. Some of the participants are Amsterdam natives, while others moved to Amsterdam later in life – however, all of the participants live in Amsterdam.

The diary research in this thesis uses structured diary entries, providing participants with guidelines of how to record their entries. The guidelines in this research are: approximately one minute of recorded sounds per entry, asking them to turn their recorders on whenever they feel isolated or disconnected from the world around them, and to provide only the smallest context on where or when these recordings were made. The guidelines provided for their diary entries makes this a framed and manageable task for participants during moments of vulnerability and reflection. Also, these guidelines provide a framework for this research, making entries comparable. Using solicited diaries provides participants with greater control of their data and enables participants to autonomously consider what they will share and what they prefer not to. Afterwards, participants were asked to upload their entries to a secured Dropbox file drop, which only I could access. Participants were asked to label their recordings with name, location and a word that would best describe their recording. However, during editing and reviewing all results, the results were anonymized and recategorized by small bits of each recording.

3.5 Data analysis

Data is analyzed using thematic analysis: aiming to uncover themes that can be recognized within all sound recordings uploaded by participants. The themes in this analysis are created through an iterative process, using themes as patterns in the collected auditive data.

Thematic analysis is chosen as the preferred method of data analysis because of its subjectivity and the possibility to follow an inductive approach. Just like coding transcribed

interview data, the recordings were coded using the themes that unveiled during thorough listening and analysis of all recordings. In all sonic recordings of moments of solitude or loneliness two major themes were uncovered: human-made sounds and (auto)mobile sounds. After coding data within these two themes, creation of the soundscapes could start. While including storytelling and aiming for an immersive sonic experience, sounds were deconstructed and edited, aiming for an engaging soundscape or sonic story.

3.6 Ethics

Ensuring ethical data collection within this research, participants have been clearly notified of to what purpose their recordings will be used, their right to quit participating whenever they like, and assuring their recordings will be handled with care, their privacy will be guaranteed and uploading their entries is done so in an encrypted and safe environment.

Participants were asked to upload their entries to an encrypted Dropbox folder, enabling participants to upload entries, without being able to view fellow participant's entries.

Participant information and entries were thus handled confidentially. An important part of handling collected data in an ethical way includes being aware of my personal bias in creative interpretation of sonic entries sent to me.

3.7 Data presentation

One of the objectives of this thesis is concerned with data presentation: aiming to present gathered data in an interactive, accessible and creative way. This section thus focuses on the design choices and process of this alternative way of data presentation.

Between deciding on wanting to present research data in a different way, and the final design of this thesis a lot of choices had to be made. How would I be able to convert my message of accessibility while still being thorough enough to be conclusive? And how would I ever learn the tools and skills to actually produce an audio paper, without having done anything with sound design before?

In order to re-create the sonic experience and inner lives of those participating in this research, a set of more technical creative skills was required. Sound design is a key element within this research, however, without having previously designed or worked with sounds before. Understanding sound design thus required knowledge of sounds in general, GarageBand and Adobe Audition. After designing the soundscapes, they had to be incorporated in to the final (accessible and interactive) end product of this research. A website (lonelycityhum.com), focused on storytelling and design – requiring both skills in terms of storytelling as well as practical design skills. Learning the principles and intricacies of storytelling made me ask for help, read and trial-and-error a lot.

The design choices made in this project can thus be attributed to the things I have learned along the way. Editing sounds in GarageBand helped recognize the importance of layering sounds, differentiating between sounds up-close and further away and emphasized the complexity of sounds and sound design. Panning the soundscapes in Adobe Audition helped me understand the importance of timing and interaction in sound design, aiming to create engaging soundscapes. Designing a website focused on interaction, accessibility and storytelling helped me think about creative writing, the importance of storytelling and the importance of cohesive and attractive design.

Artistic data presentation in this thesis is thus an essential element of conducting creative research methods and therefore aim to engage not just an academic audience but think beyond the parameters of academics.

3.8 Limitations

During research, some limitations of this thesis became evident. First of all, the highly personal (and slightly complicated) nature of this thesis significantly impacted the sample size of this research. Despite thoroughly explaining the aim of research, making participating as easy as possible and stressing one does not have to feel lonely all the time to participate, finding enough participants was difficult. Initial calls for participation resulted in many interested young adults, however, after sending more details on participating most did not reply anymore. Broadening or diversifying the research scope is a potential solution

for this limitation. Another limitation, caused by usage of diary research, is the potential risk of self-report bias, causing participants to report less or differently due to for example desirability or shame. The risk of self-report bias can be mitigated in future research by combining diary studies with other research methods, thus diversifying the research methods used.

3.9 Reflection

The freedom of form and process that comes with using creative research methods made the writing of this thesis inspiring yet difficult. The many options led to many questions and insecurities. The process of researching, designing and creating resulted in learning more about my personal constraints and creativity. Usage of creative research methods helped to reflect on research techniques previously learned while pushing to challenge thinking beyond those conventional methods I had learned.

More than usage of creative methods being just a personal challenge, creative research inspired me to think out of the box and approach this research from a (for me) new angle. Thinking conceptually and creatively whilst combining these with more conventional academics proved to be very inspiring. This research thus helped me develop new skills that might be useful in future endeavors and research.

However, creative research methods, requesting freedom in form and thinking out-of-the-box proved an obstacle in this research. Not only was it difficult to find an ethical and good way to approach young adults that potentially might be lonely, the aim for a creative research outcome complicated the research. Seeking ways to present data, learn about technology and understanding sound design was a lengthy and frustrating process, but proved educational above all. Asking many questions, watching loads of tutorials and having endless brainstorm sessions eventually made me understand sounds better, helped grasp the nuances of storytelling and inspired me to keep combining learning new (creative) skills and more theoretic knowledge gained through my bachelor and masters in Human Geography.

4. Results

Thematic analysis of data collected through the sonic diary research resulted in two themes to be distinguished: (auto)mobile sounds and human-made sounds. All recordings were either concerned with sounds within the category of mobility and vehicle sounds or sounds produced by humans and human interaction. This section further explores both themes in research – in the creative analysis of this research, a soundscape is dedicated to both categories of sounds separately.

4.1 Soundscapes

The soundscapes are designed by me, using the recordings sent in by participants. After categorizing the recordings, I used the submitted sounds to design a compelling auditive story – resulting in two soundscapes. Both of the soundscapes were designed from the perspective of the flâneuse, following her trajectory through (imaginative) Amsterdam. All recordings in the soundscapes were recorded by the research participants, after which I edited the sounds and made them in to an auditive story – from the flâneuse’s perspective. The first section of the results chapter thus focusses on who the flâneuse is and why the soundscapes are presented through her eyes. Section 4.2 *Rumbling traffic* and 4.3 *Ambient murmur* respectively describe the soundscapes on (auto)mobile sounds and human-made sounds.

As part of this thesis’ focus is on data presentation, the created soundscapes are presented through a website on this research project (lonelycityhum.com), they can thus be listened to and read about more there. Picture 1 shows the website’s header.



Picture 1

4.2 The Flâneuse

De Certeau (1980) writes about the everyday tactics people inhabit as they navigate urban life. These tactics are subtle forms of resistance to resist power structures. Walking the city is one of the most famous acts of resistance in de Certeau's work: using walking as a small act of resistance, subverting power systems through the everyday act of walking. The final design of this thesis is centered around the concept of walking the city, combined with the concept of the flâneur/flâneuse (Baudelaire, 1863) as will be more thoroughly discussed below. De Certeau thus uses walking as an act of everyday resistance, this thesis however uses the act of walking as a way to deeper understand the sensory experience of the city.

"Walking the city" is presented in the lonely city hum through the eyes of the flâneuse. Listeners take an imaginative walk through an Amsterdam cityscape, listening sounds of loneliness, shaped through designed soundscapes created from submitted, collected sound fragments.

The flâneur (Baudelaire, 1863) represents urban exploring at its base, the flâneur is an observer, someone that explores urban environments by walking the city. Traditionally, the flâneur is a man, exploring the streets of Paris with no particular objective, doing nothing but observing the urban environment surrounding him. The essay *The Painter of Modern Life* by poet Baudelaire (1863), describes an observant man, representing affluence and the ability to wander detached from society – the flâneur. The poem stems from 1863, ever since then, society has been subjected to enormous change. The flâneur, being male, is criticized for not representing a female gaze in urban walking, exploring and observing.

Janet Wolff (1985) wrote about women being excluded from the perspective of flâneur – and thus questioning the work of Baudelaire (1863) due to the inability for women to engage with urban space the same way men could in this time. Being a woman, roaming the streets without any specific purpose was perceived to be amoral. Wolff, in her work, proclaims the importance of a gender critical perspective – highlighting female presence and perspective in urban space. Lauren Elkin (2016) writes about the personal experiences of flâneuses. Unlike the flâneur in the work of Baudelaire (1863), the flâneuse is not merely

an anonymous, neutral observant but critical thinker and observant of urban life. Where women in public space (in the work of Baudelaire) were first seen as amoral, through the perspective of the flâneuse, women are now actively exploring urban spaces to no longer be excluded.

Women walking and navigating urban space becomes an inevitable act of resistance, as is fitting within the work of de Certeau (1980), they navigate and observe an urban landscape that has historically tried to ignore them. In spirit of feminist theory, and resisting ignoring women and their perspectives in the past, listeners of the lonely city hum will experience the sonic landscapes through the perspective of the flâneuse – ignoring the traditional male-dominated gaze of the traditional flâneur.

4.3 Rumbling traffic

Sounds of traffic rushing by, trucks pulling up and a rattling bike are all sounds that shaped the recordings sent in by research participants. The soundscape on sounds of mobility starts off slowly, you can hear (the flâneuse) walking and breathing. Meanwhile, the first sounds of scooters passing by and cars braking are heard. A bike passes our flâneuse, she then seems to reach some sort of a junction, with cars, scooters and heavy traffic passing by. Moments of solitude are alternated with sounds of people passing by, meanwhile, the flâneuse's heartbeat, footsteps and breathing dominate the background sounds. While the flâneuse roams the sidewalk, one hears people passing by, the sound of a pedestrian traffic light while ending this segment of her walk, the part we as a listener got to experience.

Trucks pulling up, construction traffic passing by, the sounds of screechy scooter and loud humming cars passing by are the sounds that were heard most in all recordings. The soundscape regarding (auto)mobile sounds is an interesting sonic play on wandering the streets while life passes by. Hearing the drum of footsteps and a heartbeat pounding loud creates the illusion and feeling of being overwhelmed by traffic passing by. People on their way to their next side quest, meeting friends or going home to their families: the soundscape offers room for interpretation – making the listener feel stuck, while others move on.

While cars, heavy traffic, bikes and pedestrian traffic are all represented in the recordings and soundscape, the sound of public transport is heard in none of the recordings.

The sound of a bus sighing when dropping its passengers off, the loud bell of trams warning about their arrival or the hum of a metro speeding past the platform are all sounds that one will not hear when listening to the (auto)mobile soundscape. Personally, when thinking of an Amsterdam soundscape, the sound of public transport is an inherent part of what I imagine the city to sound like. A possible explanation for the lack of public transportation sounds in the rumbling traffic soundscape could be that the sound of communal or public transport reflects a sound of togetherness while sounds of individual transport reflect the opposite. Beyond this interpretation, however, the lack of public transport sounds is an interesting observation when listening to the rumbling traffic soundscape.

Listening to the sounds of cars, bikes and pedestrians provided an interesting sensation of being in the present while life speeds past you. The overwhelming number of recordings of mobility-related sounds is interesting and intriguing. It calls our urban fabric into question: does the way our city is designed and its urban fabric encourage loneliness? Even though the created soundscape will not answer this question, it offers interesting insight in what Amsterdam sounds like to those that occasionally experience feelings of loneliness.

4.4 Ambient murmur

Not just (auto)mobile sounds were heard in all submitted recordings, another very apparent category of recordings were human-made sounds. This category of sounds includes all sorts of human-made sounds: laughs, conversation, coughing, eating or sighing. The soundscape starts off with the sound of the flâneuse walking, meanwhile, a bike passes her. She seems to walk past some sort of gathering of people. In the meantime, someone is smashing their keyboard loudly, and the voice of two men come into play – they seem to be telling or lecturing about something. The flâneuse keeps on walking, it sounds like she entered some place, she can hear people talking but it is not possible to actually understand what these people are discussing. Someone (or is it the flâneuse?) sighs loudly and a moment of

(somewhat) quiet now fills the listeners ears. All of a sudden, the flâneuse enters a more hectic scene, the listener hears commotion in the background and girls gossiping loudly. One can then hear a different and new setting, it sounds like a café, the listener can hear two strangers meeting for the first time – afterwards the sound of quiet returns and the listener is left to wonder what happens after.

Listening to this soundscape on human-made sounds, one is left to wonder about the importance and influence of social interaction on one's experience of urban environments. It seems evident that the sound of other people communicating with each other might result in feelings of loneliness.

However, when listening to and analyzing all recordings, the thing that stood out was the feeling of alienation in all human-made sounds recordings. Throughout the recording, the listener is positioned at the periphery of these interactions, almost able to engage, but always just missing the moment.

This design aims to evoke a profound sense of alienation: the feeling of being an outsider, constantly on the outside looking in. Listening to all recordings illustrated people being on the outside of other people's social lives, with the sense of solitude being strengthened by how social interactions penetrate urban life.

4.5 Blasé attitude

The blasé attitude has been mentioned before in this thesis, the self-taught blasé attitude urbanites are known for (Simmel, 1903), became apparent in the production of and listening to the soundscapes. The described loss of interest in the stimuli of urban life became apparent when closely listening to the recordings, they reflected sounds one would usually not be aware of or notice throughout the day when navigating urban life. The blasé attitude describes exactly this phenomenon – urbanites become desensitized to their sonic environment due to the overwhelming sonic urban experience. Cars passing by, the ticking traffic light changing from red to green and back to red and the background hum of people

laughing or having conversations shape the sonic environment we, as urbanites, or more specifically, young adults living in Amsterdam engage with on day-to-day basis.

The self-taught protection of an urban blasé attitude and its scope is truly challenged and confirmed by listening to, and designing, the soundscapes for this thesis. The submitted recordings of those that participated contain mainly everyday sounds – sounds that surround us in the urban realm. Reflecting on these recordings, and making them in to soundscapes, created awareness of just how much our brain filters out on daily basis. A mechanism to protect ourselves, such as the blasé attitude (Simmel, 1903), then becomes a great and useful tool when moving through life. Listening to the soundscapes on (auto)mobile sounds and human-made sounds illustrate the sounds we tend to shut off – it creates awareness of the overwhelming sonic landscape cities tend to be. This fits well within the work of Simmel: urbanites often shut off perception of sounds in order to protect themselves from the overwhelming stimuli of urban life.

However, an interesting insight here is that, even though the sounds reflected in both soundscapes are everyday sounds making up our sonic environments, for some are easily shut off by the brain while for others, these are amplifiers for feelings loneliness. Where the blasé attitude often protects urbanites from overwhelming sonic stimuli, it clearly does not always protect them. Listening to the soundscape as someone that did not participate in this research might create awareness of rich sonic environments and how the blasé attitude protects us, while for those that did participate, these soundscapes are not about how their brain protects them from the overwhelming stimuli but highlight those sounds that create a certain feeling of loneliness.

5. Discussion

The findings and angle of this research suggest that sonic urban environments do impact those within them. Roaming urban environments, human-made sounds and sounds of traffic and mobility appear to impact feelings of solitude most. These two categories were thus used as the backbone for the created soundscapes. The “rumbling traffic” soundscapes contains sounds of cars, bikes, heavy traffic and walking – these sounds clearly stood out in submitted recordings. The “ambient murmur” soundscape presents sounds of people interacting, sounds of eating, sighing or listening – sounds that appear to create a sense of loneliness amongst research participants.

The results fit within the theories earlier described: the work of Wirth (1938), Simmel (1903) and Raddichi et al. (2020). Wirth described the social dynamic of urban environments as a cause of poorer mental wellbeing of urbanites due to the anonymous nature of cities – the sensation of solitude and being an observer when listening to the ambient murmur soundscape seems to confirm this assumption. The transitory and impersonal nature of interactions within cities are evident when listening to the “ambient murmur” soundscape. Feeling like someone that passes by without actively engaging with those you meet along the way marks a sense of loneliness. The work of Simmel (1903) recognized throughout the thesis’s results: the mechanisms people inhabit to lessen the influence of constant urban stimuli. Listening to both soundscapes creates awareness of the sounds one might filter out in daily life – the “blasé attitude” urbanites inhabit in their regular lives. The “Urban Soundscaper” by Raddichi et al. (2020) forms an interesting framework for this thesis: researching and improving urban environments through a sensory perspective.

An unexpected outcome in this research was the minimal presence of nature sounds despite the importance of biophony in urban wellbeing (Raddichi et al., 2020). The initial soundscape designs included a soundscape on nature sounds, however, sounds of nature were only rarely present in all recordings and if so at all, they were just background sounds while recording something else. The lack of biophony in submitted sounds might be a confirmation of Raddichi et al.’s work on the importance of biophony: the lack of recorded

biophony points out the importance of nature sounds in urban wellbeing since these appear to not make participants feel lonely.

Future research could further explore the impact of sensory environments on those roaming urban environments, for example studying the sonic experience of loneliness amongst a different demography. These results might be completely different or confirm findings within this research. Besides, this research offers interesting insight in sensory research: exploring the city from a creative and sensory perspective adds to what is already known about our urban environments.

While this study offers valuable insights, several limitations were encountered throughout. Foremost, an initial lack of participants resulting in not only a delay in research results but may result in limited generalizability as well. The highly personal nature of this research might be another limitation: researching within my own demographic results in a possible risk for social desirability thus impacting the results. These risks can be reduced by seeking a different or broader scope of participants and research methods.

This study demonstrates sonic experiences of urban dwellers within a framework of creative research methods and sound design. Through analyzing audio recordings this research has made the sonic experience of loneliness amongst young adults in Amsterdam tangible. This thesis highlights the potential of listening as both a research method and a way to better understand urban wellbeing.

6. Conclusion

Central to this thesis is the question: *How does creative sonic research contribute to existing knowledge on the experience of urban loneliness and its sensorial dimension amongst young adults in Amsterdam?* Aiming to explore the role of creative sonic research while deepening the understanding of urban loneliness and the urban sensorium. One of the main objectives in this research was making the sonic experience of loneliness amongst young adults experienceable, resulting in lonelycityhum.com. The question of how creative sonic research contributes to existing knowledge on loneliness amongst young adults in Amsterdam is answered as follows: creative sonic research contributes to enlarging awareness of the sensory experience of urban environments.

The soundscapes created for this research offer the opportunity to actively engage with the sonic experience of Amsterdam. It poses the opportunity for those that might not feel lonely, do not fit within the young adult demographic of this research or are not living their lives in Amsterdam to experience what feeling lonely whilst being a young adult might sound like in their everyday lives. This creative sonic research has thus resulted in enlarging awareness while challenging those interacting with this research to engage themselves and challenge themselves to grasp this experience.

More so, this research underscores what has been written in urban theory in the past and present. It fits well within the work of Simmel (1903) and Wirth (1938) - proving these theories valid even when engaging with them from a completely different perspective. After more than a century, the work of Georg Simmel on the blasé attitude still applies to us (urban dwellers) living our day to day lives.

Besides researching the role of creative sonic research and deepening the understanding of urban loneliness and the urban sensorium, this research was meant to be a challenge. Challenging myself to broaden my own horizons and seek ways of research and presenting research in a way I had not done before. This has been a great challenge and learning experience – challenging myself to make most out of my masters and thesis. Incorporating

academic research, creative research methods and design has proven to be a combination well suited within my interests and thus proven to be very valuable.

This research has thus been an interesting and inspiring experience, reaching beyond the research methods and data presentation knowledge I previously learned has been an incredible opportunity. I hope that those that trusted me with their inner feelings of loneliness feel heard now. I hope that we never stop listening, engaging and creating. And of course, do not forget to visit lonelycityhum.com.

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