

Research Article

Spatial Perceptions in a Marginalized Urban Area: Understanding Place, Stigma and Everyday Belonging

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Section A



Figure S1. Reference Map of the case study area, showing Duisburg within North Rhine-Westphalia (Geobasis NRW, 2025).

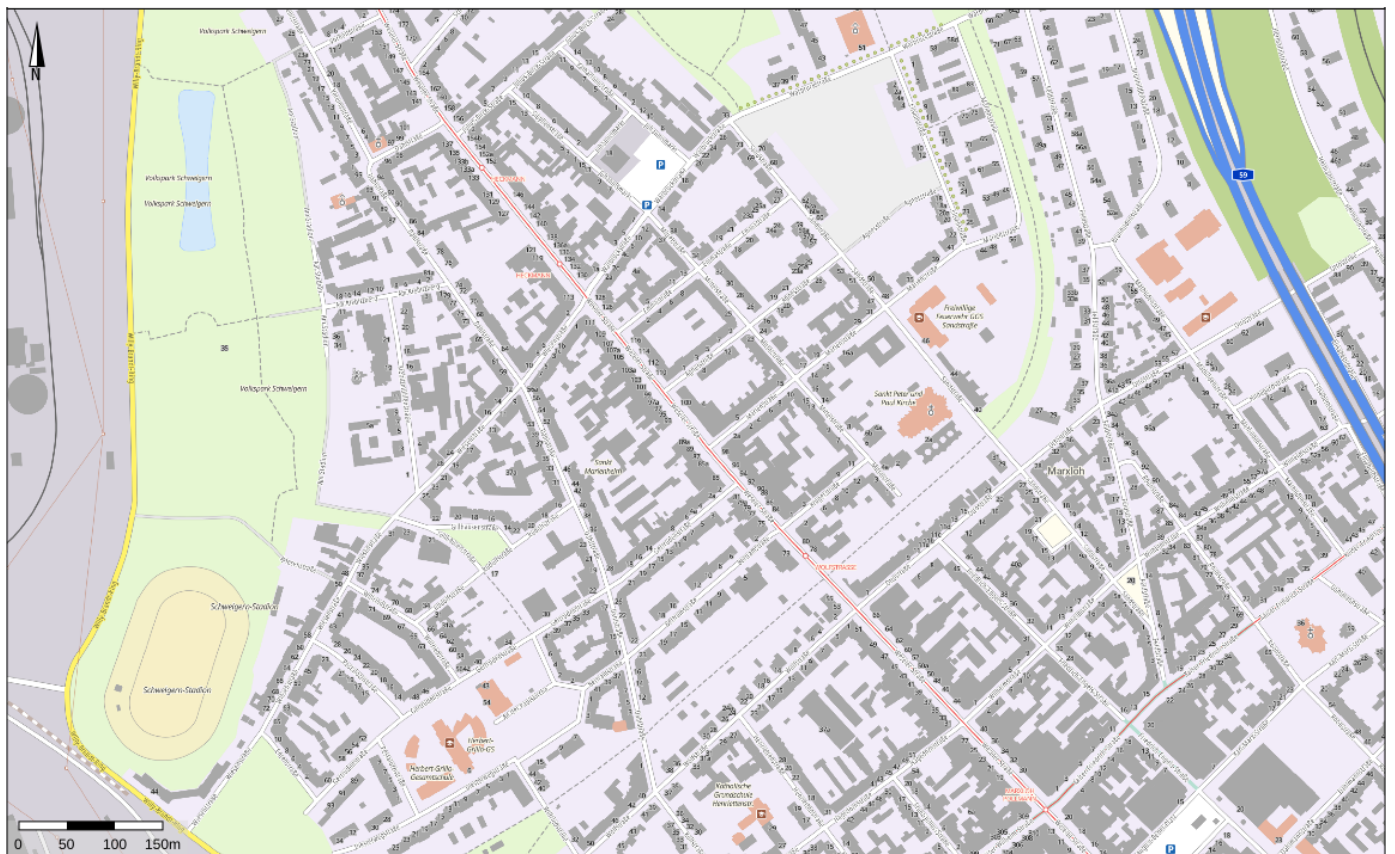


Figure S2. Zoomed-in map of the case study area, showing Weseler Straße in Duisburg-Marxloh (Geobasis NRW, 2025).

Section B

Table S1. Guidelines of semi-structured interviews with guiding questions and follow-up questions structured by four thematic subfields (own illustration, based on (Helfferich, 2022)).

Research Interest	How is Marxloh and its social attributes perceived by local girls with a migration background?
Research Questions (RQ)	1. How and why does the students' spatial construction change? (Fögele & Mehren, 2017) 1.1 Perception of place (phenomenology): How do students describe their perception of Marxloh? Which sensory impressions (e.g., visual, acoustic, or emotional) stand out to them? 1.2 Construction of place (post-structuralism): How do the students define their 'own place' in Marxloh? How do the students deal with the public-media construction of Marxloh? 1.3 Power (critical geography): How do the students perceive their role as young girls with a migration background in the Marxloh area (e.g. borders)? Are there specific places in Marxloh where the schoolgirls feel particularly (un-)safe?
General Framework	The group interviews are conducted with seven girls with a migration background living in Marxloh and attending a local school. Before the group interviews begin, name tags are distributed and the seating arrangements are recorded. The participants are also assigned personal composite codes consisting of the first letter of their first name and the day of their birthday as a two-digit number. The codes are recorded with a voice sample in the form of a short round of introductions 'I am CodeXY, I am XY years old and I attend class XY at Herbert-Grillo-Gesamtschule in Duisburg Marxloh'.
Information and orientation phase → Information and creation of a trusting and communication-oriented atmosphere	• First of all please introduce yourself • Round of introductions 'I am CodeXY, I am XY years old and attend class XY at Herbert-Grillo-Gesamtschule in Duisburg Marxloh' as a voice sample • Introducing the main topic and clarifying the purpose of the group interview (transparency) ◦ Empirical research by Tabea Thomsen (Code T10) as an independent representative of the University of Muenster • Data protection: Audio recording for the subsequent evaluation, anonymization, declarations of consent • Note: evaluation-free space, differentiation from a test situation: what is said is not passed on to third parties (e. g. teachers) and/or evaluated, all personal views and experiences are relevant and valuable; free, open and spontaneous narration is desired, not every word is taken literally • Specify basic rules for communication during the group interview in order to facilitate the establishment of a group norm in the course of the discussion (e. g. respectful interaction, no personal attacks, no right or wrong answers) Rules for communication -that only one person can talk at a time, -that you do not talk too long -that you do not speak impersonally and generally, but about yourself and your experiences -that you do not digress, but refer to the topic -that side conversations actually belong in the public sphere of the discussion
Getting started	• Here we go • Tell us whether you have ever dealt with your place of residence at school. When and in which subject has Marxloh ever been a topic?
Main section: spatial perception	• Let's go Inside Marxloh... I would like to talk to you about your home district. • How do you perceive Marxloh (e. g. sounds, smells, architecture)? • What does Marxloh mean to you? • What do you associate with Marxloh (e. g. feelings, memories)? • What positive and negative experiences from your everyday life in Marxloh have stayed in your mind? • What does your everyday life in Marxloh looks like (e. g. leisure activities, work, transportation)? • Where do you spend your free time in Marxloh? Tell us about a typical Saturday. • What do you associate with these places (e. g. feelings)? • What are particularly (un)interesting places for you in Marxloh? • Are there places that you deliberately avoid (e. g. insecurity)? Why? • Are there places you are not allowed to go (e. g. boundaries)? Why?

	• We've already discussed your insider perspective at length. However, I am an outsider when it comes to Marxloh. What do you think have I heard about the district so far? • Where does my information about Marxloh come from? • Do you agree with the images and narratives from the media? • Do you think you can change anything about how outsiders perceive Marxloh? Why (not)? • Which places in Marxloh would you take outsiders to with the aim of maybe changing their minds? Why? • Which important people for Marxloh would you introduce to outsiders with the aim of changing their minds? Why?
Looking to the future: spatial perception	• Finally, let's take another look into the future together. • What would you like to see for your district of Marxloh (e. g. structural measures)? • What opportunities do you see for yourself to change something in the district? What could this look like in concrete terms?
Come to an end → rounding off, satisfactory conclusion	• Let's conclude all together • Flashlight: name 3 associations that spontaneously come to mind about your home district of Duisburg Marxloh • Is there anything we haven't talked about that you would like to address? • Thank you for your participation in the group interview

Section C

Table S2. Transcription rules (own illustration, based on (Kuckartz & Rädiker, 2024)).

Speeches	1. Each speech should be transcribed as a separate paragraph. Changes in speaker are indicated by pressing the Enter key twice to create a blank line between speakers, increasing readability.
	2. Paragraphs by the interviewer(s) begin with 'I', while those by the interviewee(s) begin with a unique abbreviation consisting of the initial letters and the month of birth as a two-digit number (e.g., A07). The speakers' identifiers are in bold to make them easier to recognize.
	3. All information that could be used to identify the interviewee(s) is anonymized. This includes names of people, such as classmates ('classmate' as a placeholder), teachers ('teacher' as a placeholder), schools ('school' as a placeholder) and university researchers ('researcher' as a placeholder).
Content and grammar	4. Transcriptions are literal; they are neither spoken language nor summaries. This means that they may contain sentences that do not make sense or contain errors.
	5. Language and punctuation are smoothed out slightly, i.e., they are brought closer to written German. For example, 'Er hatte noch so'n Buch genannt' becomes 'Er hatte noch so ein Buch genannt'. Word order, definite and indefinite articles, etc. are retained, even if they contain errors. Word repetitions are also transcribed.
	6. Words, sentences and passages that cannot be clearly identified or are incomprehensible are written in brackets and marked with 'unv'.
Confirmations and interjections	7. Affirmative or confirming vocalizations (such as 'mhm' or 'aha') are transcribed. The same applies to negative or incomprehensible vocalizations (e.g. 'huh').
	8. Short interjections by other people, such as 'yes' or 'no', are placed in square brackets and integrated into the speech contribution. If an interjection from another speaker causes an actual sentence to be interrupted, the sentence is ended with three dots. To indicate a change of speaker, three dots are also used after pressing the Enter key twice.
Disturbances	9. If external disturbances occur, these are noted in brackets, stating the cause (e.g., 'cell phone rings').
Pauses, emphasis and vocalizations	10. Clear, longer pauses are indicated by an ellipsis (...), placed in parentheses. Depending on the length of the pause, one, two or three dots are used: one dot (.), two dots (..), or three dots (...). For longer pauses, the corresponding duration in seconds is given in brackets, e.g. (5).
	11. Particularly emphasized terms are underlined.
	12. Loud speech is indicated by writing in capital letters.
	13. Particularly quiet speech is indicated by a preceding °.
	14. Vocalizations by the interviewee(s) or interviewer(s) that support or clarify a statement are noted in simple round brackets in the relevant place. Examples include (laughs), (groans) and (sighs).
	15. 'Um', 'uh', etc. are only transcribed for students, not for me.
Time stamps	16. Time stamps are set.

Table S3. Codebook (own illustration, based on (Kuckartz & Rädiker, 2024)).

Code	Subcode	Definition	Ankerbeispiel
C1 Perception of place (phenomenology)	C1.1 Belonging	This category is coded when respondents describe their perception of Marxloh by making statements about their attachment to the district.	A7: Everyone knows everyone. No matter where you go, you know at least ten people or more. #00:06:39-7#
	C1.2 Familiarity with everyday life	This category is coded when respondents talk about places in Marxloh by describing them as familiar, normal or self-evident.	S10: I live here. #00:33:08-2#
	C1.3 Emotional Attachment	This category is coded when respondents describe their perception of Marxloh by expressing a strong emotional connection to the district.	A4: [...] They're really nice and always talk to us. #00:17:28-8#
	C1.4 Commercial monostructure	This category is coded when the respondents describe their perception of Marxloh by taking about the economic infrastructure of the district.	A4: [...] I think these wedding dress stores take far too much away from Marxloh. #00:09:51-2#
	C1.5 Building fabric	This category is coded when respondents describe their perception of Marxloh by talking about the structure, aesthetics or architecture of its buildings.	N3: There are definitely a lot of old buildings. #00:23:58-7#
	C1.6 Lack of youth-friendly places	This category is coded when respondents describe their perception of Marxloh by reporting that there are no suitable public places for young girls with migrant background in the district.	E6: [...] For example, there are good places that you can walk around, but not enough. #00:12:50-7#
	C1.7 Visual perception of place	This category is coded when respondents describe their visual perception of Marxloh by characterizing their approach to the place with visual impressions.	N3: [...] You can already see how old it is. It's not slimy; it's green. #00:23:58-7#
	C1.8 Physical-affective perception of place	This category is coded when respondents describe their perception of Marxloh by talking about sensory aspects of the environment that characterize their approach to the district.	Z11: [...] But it's a bit uncomfortable. I don't know. It could just be me. #00:15:25-5#.
	C1.9 Desire to move away	This category is coded when respondents describe Marxloh while characterizing the district as a place with no prospects.	Z11: Yes, I want to move away too. #00:12:07-8#
C2 Construction of place (post-structuralism)	C2.1 Spatial construction through media discourse	This category is coded when respondents are talking about external constructions of Marxloh by explicitly cite the media as the origin or amplifier of constructions of the district.	A4: [...] because I had also seen on social media that people only talk about Marxloh [...] #00:15:42-6#
	C2.2 Spatial construction by family	This category is coded when respondents are talking about external constructions of Marxloh by reproducing statements about the district from the perspectives of relatives outside the district about the district.	Z11: For example, when I told them what my aunt thought about Marxloh before I went to school [...] [...] #00:24:24-0#

	C2.3 Spatial construction by peer group	This category is coded when respondents are talking about external constructions of Marxloh by reproducing statements about the district from the perspectives of their own circle of acquaintances outside the district.	N3: They're not here that often; we only come because of school [...]. #00:09:08-0#
	C2.4 Stigmatization by others	This category is coded when respondents are talking about external constructions of Marxloh by reflecting negative attributions of place, stereotypes and devaluations of the district by third parties.	A7: [...] Because when you say Marxloh, people immediately think it's dirty and criminal. #00:03:55-3#
	C2.5 Self-stigmatization	This category is coded when respondents are talking about external constructions of Marxloh by describing themselves or their surroundings in a derogatory way.	S10: (Laughing.) Yes, but I don't mean us; I mean Romina. #00:28:21-1#
	C2.6 Internalization	This category is coded when respondents are talking about external constructions of Marxloh by adopting stigmatizations of the district without questioning them.	A4: And there are too many Bulgarians, Romanians, and so on. #00:11:06-0#
	C2.7 Reproduction	This category is coded when respondents are talking about external constructions of Marxloh by (un-)consciously repeating stereotypes about the district.	Z11: [...] So, some things are true. There's more crime here now, statistically speaking [...]. #00:10:52-8#
	C2.8 Relativization	This category is coded when respondents are talking about external constructions of Marxloh by downplaying or over glossing external attributions.	Z11: It's just not the same, but it's still OK. I don't think it's as bad as you think. #00:24:45-7#
	C2.9 Distancing	This category is coded when respondents are talking about external constructions of Marxloh by clearly distancing themselves from external attributions.	S10: Actually, I'm not interested in what they say because it's just a city. #00:26:14-6#
	C2.10 Deconstruction	This category is coded when respondents are talking about external constructions of Marxloh by challenging existing public stereotypes of the district while offering their own perspective on the district.	S10: Well, the fact that Marxloh is very multicultural is great. #00:13:29-1#
C3 Power (critical geography)	C3.1 Unsafe places	This category is coded when respondents discussing their experiences by identifying specific places where they feel unsafe.	N3: Yes. There are places where people simply don't dare to go alone because of the people there; you have to be careful. Nobody wants to be in that area, and there are... #00:07:25-3#
	C3.2 Safe places	This category is coded when respondents discuss their experiences by identifying specific places where they feel safe.	Z11: [...] Even when I first arrived, everyone was very nice and helpful. They asked how I felt and if everything was fine,

			and that also helped me. #00:18:19-0#
	C3.3 Temporal coding of place	This category is coded when respondents discuss their role by making statements about the time of day and its influence on their behavior in the district.	A4: Yes, a bit after 5 o'clock or 6 o'clock, then no. #00:14:50-1#
	C3.4 Gender coding of place	This category is coded when respondents discuss their experiences by making statements about gender roles and their influence their behavior in the district.	A7: Yes, there's a huge stage there. I don't think a girl would ever go there alone... #00:07:50-5#
	C3.5 Withdrawal into the domestic environment	This category is coded when respondents discuss their role by describing their domestic lifestyle.	E6: At home with us. I go to her place; she comes to mine. #00:14:39-4#
	C3.6 Masculine-dominated public	This category is coded when respondents discuss their experiences by describing the public as male-dominated, controlled or restricted.	A4: [...] There are also a lot of gangsters, so to speak. #00:14:21-2#
	C3.7 Spatial participation	This category is coded when respondents discuss their role by talking about participation, access, or exclusion.	S10: [...] I tend to go out when I need to get something from the shop or somewhere else. Yes, otherwise I stay at home. #00:07:54-3#
	C3.8 Restriction of movement	This category is coded when respondents discuss their experiences by reporting which public places they use or avoid.	N3: Yes, yes. I wouldn't go in there. #00:07:38-5#

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