
Digital Connectivity among Homelessness Service Users in Berlin: A Baseline Survey

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► **Abstract** *Digital participation increasingly mediates access to basic needs, benefits, income opportunities, and social ties; for people experiencing homelessness, connectivity is often unstable. We report findings from a multilingual, interviewer-assisted survey (n=138) conducted across five Berlin homelessness day centres in March–April 2022, with eligibility aligned to ETHOS categories 1–8 and 11–12. Internet use in the prior year was widespread (87%), yet current device ownership lagged (61.6% any device; 59.4% smartphone), indicating reliance on borrowed/shared access. In practice terms, three-quarters of respondents charge their devices at NGOs, and many depend on public transport or public-space Wi-Fi, underscoring the value of safe charging infrastructure and reliable in-service Wi-Fi. This research note offers a first descriptive baseline for Berlin and identifies leverage points for service design.*

► **Keywords** *Homelessness; Digital divide; digital inclusion; smartphones; connectivity; Berlin*

Introduction

Digital participation mediates access to many basic needs, from public benefits and healthcare appointments to income opportunities and social relations. Lacking stable digital connectivity consequently increasingly constitutes a significant burden. Many socioeconomically or otherwise marginalised people may face particular challenges in becoming and remaining stably digitally connected, reinforcing existing divides (van Dijk, 2020).

This holds true for unhoused people (Buré, 2005; Humphry, 2014; Marler, 2022), many of whom experience connectivity as reliably unstable (Gonzales, 2016) – conditioned by precarious life circumstances often characterised by scarcity and insecurity. This research note attempts to measure these challenges in one particular context by providing a descriptive baseline for the context of homelessness in Berlin, the city in Germany with the highest number of unhoused people (Hundenborn and Hees, 2023).

We report findings from a multilingual, interviewer-assisted survey (n=138) conducted across five homelessness day centres in March–April 2022. The survey constituted one part of a broader mixed-methods research project on homelessness and digital media usage in Berlin. Any user of these day centres who had met criteria for FEANTSA ETHOS categories 1–8 and 11–12 (FEANTSA, 2017a) for at least one night in the last 12 months was eligible for participation. The survey instrument, co-developed with unhoused collaborators and informed by ethnographic fieldwork, adapts established constructs from digital divide research for the context of homelessness, draws on previous research on the intersection of homelessness and digital media, and adds items specific to the Berlin/Germany context.

Our agenda is straightforward and descriptive; where appropriate, some limited disaggregation is conducted. Figures on serial smartphone loss and challenges around SIM registration from our survey were cut for brevity and will be part of separate, forthcoming publications. We mark clear limits: The sample is not population-representative – as is common practice in survey research on homelessness and digital media due to the challenges surrounding random sampling (Galperin, Bar and Nguyen, 2021) – and likely diverges from existing citywide counts on citizenship composition. Additionally, the reference period of many items (the year preceding March–April 2022) may pick up on late-pandemic constraints that are specific to that period.

This research note constitutes the first descriptive baseline of digital connectivity among unhoused people in Berlin. It offers an overview with sufficient granularity to reveal leverage points for practice and to enable future research to replicate, extend, or compare with more rigorous designs. Although city-specific and non-representative, the patterns reported here may provide some initial insights beyond the Berlin context for practitioners and policymakers in comparable European urban contexts.

Methodology

Target population and sampling

The delineation of the survey's target population was informed by three sources: prior theoretical and empirical work, our own ethnographic fieldwork, and methodological considerations. Existing surveys on digital media use among people experiencing homelessness vary in their chosen field sites, focusing, for example, on users of the shelter system (e.g., Pearlstein et al., 2020) or on clients of specific housing programmes (e.g., Rhoades et al., 2017). From the outset, our intention was to capture homelessness in a broad sense as articulated by FEANTSA's ETHOS framework.

To best capture this breadth, we selected homelessness day centres as our field site – low-threshold spaces that offer daytime respite, hot meals, seating, and opportunities for social contact. Consequently, we do not capture people experiencing homelessness who do not use these services. Our target population is defined as users of homelessness day centres who spent at least one night in the past twelve months in ETHOS categories 1–8 and 11–12.

Fieldwork took place between 17 March 2022 and 29 April 2022 across five day centres in Berlin. Participants were chosen through convenience sampling, being approached by researchers or day centre staff.

A total of 141 individuals completed the survey. Three reported having slept exclusively in a flat with their own rental contract during the preceding twelve months and were excluded from analysis. The resulting analytic sample comprises 138 participants.

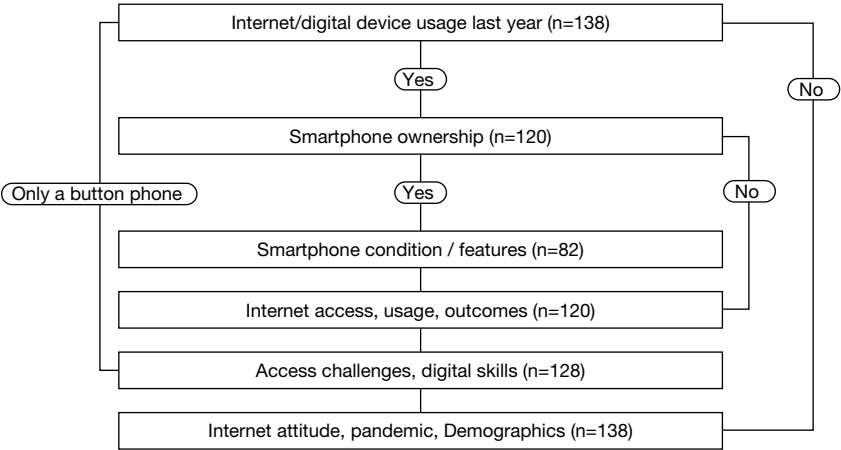
Survey development

The survey was co-developed with unhoused collaborators as part of our ongoing ethnographic research. Between early 2020 and March 2022, field experiences helped identify salient domains, and multiple unhoused people provided feedback on both content and format. We piloted the instrument with unhoused participants to identify and remedy issues prior to full deployment (for more detail, see Lewis, 2025b).

Where possible, we adapted established measures from the digital-divide literature to maximise construct comparability, supplemented by items specific to Berlin/Germany and to homelessness service use. Appendix 1 maps constructs to their sources.

Our final survey entailed 119 items in total, many of which were Likert-type matrix questions. We employed skip logic, so not all respondents saw every item; consequently, base *n* varies across tables. A flow diagram of sections and skip logic is provided in Figure 1.

Figure 1. Survey Flow and Skip Logic



Read from top to bottom. Not all sections included here; graphic constitutes an overview.

Survey Administration

Five interviewers administered the survey: three project researchers, one student assistant, and one expert with lived experience.

The survey was implemented in Google Forms and available in German, English, Russian, Polish, and Romanian, with translations performed by an accredited firm. Interviews were conducted on laptops with interviewer assistance, a modality chosen, among other reasons, in light of variability in reading proficiency. We acknowledge that interviewer-administration may introduce social desirability effects.

Typical completion time was 20-30 minutes, with a range from 10-45 minutes. Participants received €10 as compensation – indexed to the approximate 2022 minimum hourly wage – to recognise their time and effort at a level intended to be fair but not coercive. Compensation was not contingent on completing the survey; this was clearly communicated as part of the informed consent script (see below).

Coding and data analysis

Responses from all language versions were harmonised to a single coding scheme using lookup tables that mapped translated labels to English categories. After harmonisation in Excel, the dataset was imported into SPSS for coding and analysis. Variable labels, value labels, and missing-data codes were applied via SPSS Syntax scripts; analyses were conducted in SPSS using unweighted frequencies and valid percentages.

We did not include a housed comparison group. Where comparable data is publicly available for the general population for key metrics, we report these figures alongside our own data; however, methodological differences preclude a direct comparison – they should therefore be read as directional context rather than benchmarks.

Earlier publications inadvertently included the three cases ineligible due to their housing status and minor miscoding from stray leading spaces. This produced small discrepancies in previously published figures. Corrections have been requested.

Our dataset and a corresponding codebook are accessible online for further analysis (Lowis, 2025a).

Ethics

The study was approved by the Ethics Committee of the Department of Psychology and Ergonomics, Technical University of Berlin (Tracking No. MH_02_20200430). Informed consent was obtained through a checkmark in the survey programme below an informed consent script in the survey interface. The informed consent script was read aloud by the interviewers; a printed copy including contact information for the research team was provided to participants. All respondents consented; none chose to withdraw. With the exception of some critical items, questions were optional to reduce burden and respect participants' comfort.

Results

Sample Profile

Our sample is predominantly male (78.7%; $n=107$), with 18.4% ($n=25$) identifying as female and smaller shares identifying as other/transgender. German (68.8%; $n=95$) and English (54.3%; $n=75$) are the most widely spoken languages among our sample, with notable minorities speaking Polish (19.6%; $n=27$) and Russian (18.1%; $n=25$). We did not specifically ask about first language – English being widely spoken in the sample may reflect its status as a widely taught second language.

German proficiency is split: 51.4% ($n=71$) say that they are perfectly fluent/native, while 26.8% ($n=37$) say they have little/no knowledge. Citizenship is mixed – 53.1% ($n=69$) have German citizenship, 40.0% ($n=52$) other EU citizenships, with 6.9% ($n=9$) having non-EU citizenship. Homelessness is often long-term: 12 months–5 years is the most widely reported homelessness duration bracket at 40.6% ($n=54$).

Table 1. Sample Demographics

Category	Frequency (n)	Valid %
Gender (valid n=136)		
Female	25	18.4
Male	107	78.7
Transgender/Other	4	2.9
Languages spoken (valid n=138, multi-answer, all above 5% listed)		
German	95	68.8
English	75	54.3
Polish	27	19.6
Russian	25	18.1
Turkish	16	11.6
French	13	9.4
Bulgarian	11	8.0
Spanish	7	5.1
German language knowledge (valid n=138)		
No knowledge	13	9.4
Little knowledge	24	17.4
Intermediate knowledge	15	10.9
Proficient knowledge	15	10.9
Perfectly fluent / native	71	51.4
Citizenship (valid n=130)		
Non-EU	9	6.9
EU (not German)	52	40.0
German	69	53.1
Lifetime homelessness duration (valid n=133)		
<1–3 months	12	9.0
3–6 months	6	4.5
6–12 months	18	13.5
12 months – 5 years	54	40.6
5–10 years	24	18.0
> 10 years	19	14.3
Disability (valid n=126)		
No	95	75.4
Yes	27	21.4
Prefer not to say	4	3.2

Base n=138 (all participants). Percentages based on valid n for each question.

In Appendix 2, we conduct two one-sided tests (TOST) comparing our sample's demographics with the Wohnungslosenberichterstattung 2024 benchmark (Bohlender et al., 2024; Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen, 2024). This count of unhoused people is, however, not a direct comparator due to definitional and methodological differences. Overall, our sample is broadly comparable to this benchmark on gender and age distributions, while citizenship diverges, with our sample skewing more German.

Table 2. Sleeping arrangements in the prior 12 months (n=138)

Sleeping place option	Frequency (n)	Valid %
Night shelter (have to leave every morning)	87	63.0
Living on the street, tent, in a park, or similar	75	54.3
Staying with friend or family member	44	31.9
Residence for homeless people (can stay for longer period of time)	42	30.4
Hospital / Psychiatric Facility	23	16.7
Supported Housing (where a social worker supports you)	20	14.5
Jail	16	11.6
Occupied house	13	9.4
Living in a flat share / flat without your own rental contract	10	7.2
Other	10	7.2
Living in a flat share / flat with your own rental contract	8	5.8
Tiny House	4	2.9

Base n=138 (all participants). Multi-answer. Percentages based on base n.

As can be seen in Table 2, respondents report a wide mix of places, reflecting movement across the care and housing landscape. Night shelters are most common at 63.0% (n=87), followed by unsheltered locations (living on the street, tent, park, or similar) at 54.3% (n=75). Interpersonal arrangements are frequent – staying with friends or family 31.9% (n=44) – as are longer-stay facilities – residences for homeless people 30.4% (n=42). Institutional touchpoints appear for a notable minority: hospital/psychiatric facility 16.7% (n=23) and jail 11.6% (n=16).

Overall, respondents reported between a minimum of one and a maximum of eight different types of sleeping arrangement in the last year, with a mean of 2.6 (SD=1.45).

Device Access

Most survey participants reported using the internet or a digital device in the past year, with 87.0% (n=120) indicating “Yes.” A smaller share reported no such use, 7.2% (n=10), while 5.8% (n=8) reported having only a button phone. For context, official German statistics indicate that in 2022 roughly 6% of people aged 16-74 in Germany had never used the internet – a stricter definition than our “no use in the last year”.

Table 3. Usage of internet/digital devices in last year (n=138)

Response	Frequency (n)	Valid %
No	10	7.2
Yes	120	87.0
Only a button phone	8	5.8

Base n=138 (all participants). Valid n=138. Percentages based on valid n.

As a general-population benchmark at household-level – limiting comparability – German households in 2022 reported 88.1% with at least one smartphone, 75.5% with a laptop/notebook, and 55.0% with a tablet (Destatis, 2018¹).

Devices	Frequency (n)	Valid %	General population (household-level) %
Internet-enabled devices			
Smartphone	82	59.4	88.1
Button phone	15	10.9	(-)
Tablet	13	9.4	55.0
Laptop	9	6.5	75.5
Any internet-enabled device (smartphone, laptop, tablet)	85	61.6	(-)
Peripherals and other devices			
Headphones	63	45.7	(-)
Powerbank	45	32.6	(-)
Radio	27	19.6	(-)
Camera	9	6.5	(-)

Beyond internet-enabled devices, headphone ownership is common – 45.7% (n=63) – which has practical implications for potential smartphone distributions: many recent phones lack a 3.5 mm jack, while Bluetooth sets add cost and require charging. In our ethnographic work, participants described headphones as useful for privacy and coping in crowded settings (e.g., shelters) and for media consumption when playing sound aloud is impractical. Powerbanks are also relatively widespread – 32.6% (n=45).

¹ Publication date of Destatis figures has not been updated from earlier iterations.

Table 5. Information about smartphone

	Frequency (n)	Valid %
Acquisition route of most recent smartphone (valid n=81)		
Bought new	28	34.6
Bought used	23	28.4
Gift from family or friends	19	23.5
Donation from NGO	8	9.9
Found	3	3.7
Spend on most recent smartphone (valid n=78)		
Nothing	25	32.1
Less than 20 Euros	3	3.8
20-50 Euros	6	7.7
50-70 Euros	7	9.0
70-100 Euros	11	14.1
100-150 Euros	15	19.2
150-250 Euros	6	7.7
250-500 Euros	5	6.4
Working condition of most recent smartphone (valid n=82)		
Very badly	5	6.1
Badly	10	12.2
OK	19	23.2
Well	17	20.7
Very well	31	37.8
Number of smartphones currently owned (valid n=82)		
One phone	69	84.1
Two phones	9	11.0
Three phones	3	3.7
Four phones	1	1.2

Base n=82 (smartphone owners). Percentages based on valid n for each question.

Among current smartphone owners, acquisition routes include purchase and non-purchase channels. The largest single route is buying new at 34.6% (n=28), followed by buying used at 28.4% (n=23). Combining categories, purchases (new or used) represent 63.0% (n=51) of the most recent acquisitions, while non-purchase routes represent 37.0% (n=30).

A third of owners – 32.1% (n=25) – reported paying nothing for their smartphone, approximately tracking the figures for non-purchase acquisition routes. Among those who did pay, spending skews low: ≤100 € accounts for 34.6% of all owners (n=27; sum of “<20 €”, “20–50 €”, “50–70 €”, “70–100 €”), while 100–150 € is the single most common paid bracket at 19.2% (n=15); higher spend is less frequent. Retail benchmarks show that the median consumer price of smartphones sold in Germany was 626 € in 2022 (Statista, 2023).

Table 6. Laptops/Computers

	Frequency (n)	Valid %
Laptop/computer usage in the last 12 months (valid n=116)		
No	60	51.7
Yes	56	48.3
Computer/Laptop access sites (valid n=120, multi-answer)		
NGO/charity computer	27	22.5
Friends'/family computer	20	16.7
Internet café computer	16	13.3
Library computer	11	9.2
Own computer/laptop	10	8.3

Reported laptop/computer use is split nearly in half among internet users: 48.3% (n=56) said they used a laptop/computer, while 51.7% (n=60) said no. In other words, even within a group that used the internet in the last year, about one in two did not use a laptop/computer.

Among internet users, the most frequently cited access points for laptops/computers are NGO/charity computers: 22.5% (n=27), friends'/family computers: 16.7% (n=20), internet cafés: 13.3% (n=16), and libraries: 9.2% (n=11), with own computer/laptop accounting for 8.3% (n=10). These figures indicate that institutional and interpersonal channels are the primary routes to non-phone internet access.

Reported use frequency among internet users skews intensive: 36.1% (n=43) selected “more than four hours a day,” and a further 33.6% (n=40) reported daily use; together, 69.7% (n=83) fall into daily or heavier categories. Less frequent patterns are less common: weekly use accounts for 22.7% (n=27), while monthly and less than monthly together comprise 7.6% (n=9).

Table 7. Internet connectivity modalities.

	Frequency (n)	Valid %
Internet use frequency (valid n=119)		
Less than monthly	6	5.0
Monthly	3	2.5
Weekly	27	22.7
Daily (less than four hours)	40	33.6
More than four hours a day	43	36.1
Wi-Fi usage in the last 12 months (valid n=119)		
No	8	6.7
Yes	111	93.3
Wi-Fi access sites in the last 12 months (valid n=112)		
Public transport	91	81.3
Free Wi-Fi Berlin (public places)	66	58.9
NGOs / charities	57	50.9
Shops	48	42.9
Friends and family	39	34.8
Restaurants	34	30.4
Cafes	29	25.9
Libraries	21	18.8
My own Wi-Fi in a flat/room	18	16.1
Data usage per month in the last 12 months (valid n=106)		
0 GB	12	11.3
1–3 GB	11	10.4
3–5 GB	13	12.3
5–10 GB	18	17.0
10–20 GB	32	30.2
More than 20 GB	20	18.9
Monthly phone spend in last 12 months (valid n=123*)		
0 Euros	12	9.8
Up to 5 Euros	5	4.1
5–10 Euros	15	12.2
10–20 Euros	51	41.5
20–30 Euros	12	9.8
30–50 Euros	15	12.2
More than 50 Euros	13	10.6

Base n=120 (internet users) for all variables except starred ones. Percentages based on valid n for each question.

* Base n=128 (internet users and button phone users).

This compares to a median usage among the German general population of 160 minutes in 2022 (ARD/ZDF-Forschungskommission, 2023). Read alongside the earlier access figures, these figures suggest that once people are online, their engagement is typically regular and often high-intensity.

Wi-Fi use is near-universal among internet users in our sample: 93.3% (n=111) reported Wi-Fi usage. Reported access points cluster around public and third-sector infrastructure. Public transport is the leading node at 81.3% (n=91), followed

by Free Wi-Fi Berlin (public places) at 58.9% (n=66) and NGOs/charities at 50.9% (n=57). Commercial venues are also important – shops: 42.9% (n=48), restaurants: 30.4% (n=34), cafés: 25.9% (n=29) – as are interpersonal channels (friends/family: 34.8% (n=39)). By contrast, owning Wi-Fi in a flat/room is much less common at 16.1% (n=18). This is consistent with the broader challenges of housing precarity regarding digital connectivity.

Reported mobile data usage concentrates at higher levels: 10–20 GB: 30.2% (n=32) and >20 GB: 18.9% (n=20) together account for 49.1% (n=52). Only 11.3% (n=12) used no data at all. As a benchmark for the general population, Statista (2023) estimates a monthly average of 5.65 GB per active SIM card in 2022. Notably, the valid number of respondents was relatively low for this question (n=106) in comparison with the base n of 120. It stands to reason that some participants were unsure about whether they used mobile data and if so, how much.

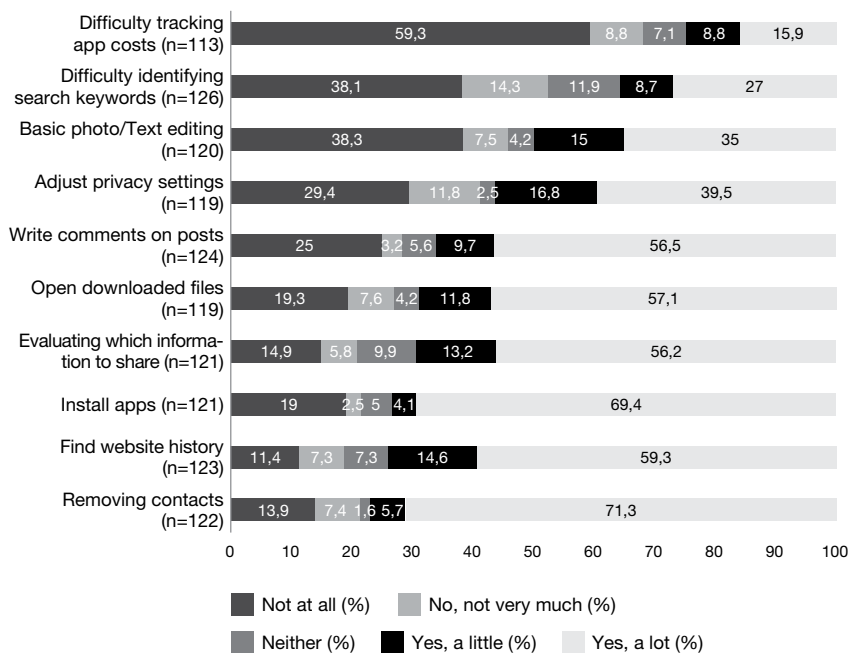
Spending is concentrated in the 10–20 € range: 41.5% (n=51) report this modal band, while a smaller group pays substantially more and a notable minority rely on ≤10 € or 0 €.

Skills and Attitude

Internet/phone users report strong competence on routine smartphone tasks: removing contacts (71.3% “Yes, a lot”), installing apps (69.4%), finding website history (59.3%), opening downloaded files (57.1%), writing comments on posts (56.5%), and evaluating which information to share (56.2%). Confidence is lower for adjusting privacy settings (39.5% “Yes, a lot”) and basic photo/text editing (35.0%).

Two items are phrased as difficulties and are reverse-coded in the skills index: most report little or no difficulty identifying search keywords (38.1% “Not at all,” 14.3% “Not very much”) and tracking app costs (59.3% “Not at all,” 8.8% “Not very much”), though notable minorities indicate a lot of difficulty (27.0% and 15.9%, respectively).

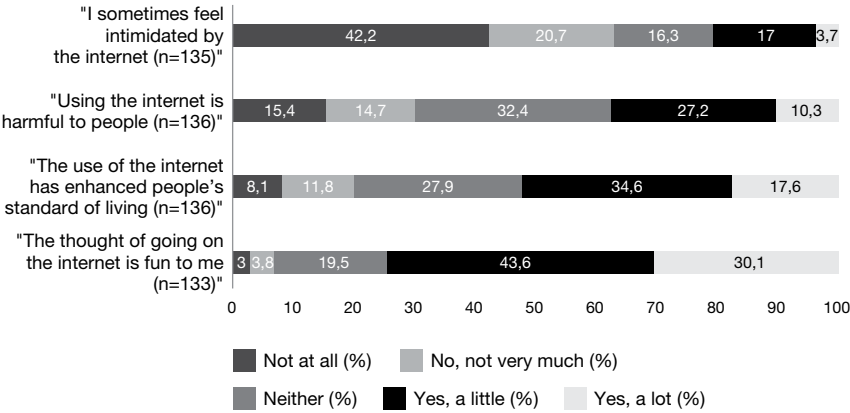
Overall, the pattern suggests solid everyday proficiency. However, these figures should be treated with care as they reflect self-reported proficiency.

Figure 2: Internet Skills

Base n=128 (internet users and button phone users). Valid n ranges from 113-126. Percentages based on valid n.

Generally, internet/phone users' attitude towards the internet trends positive, as can be seen from Figure 3: a large majority find going online fun (30.1% "Yes, a lot"; 43.6% "Yes, a little"), and most agree that internet use has enhanced people's standard of living (17.6% "Yes, a lot"; 34.6% "Yes, a little"; 27.9% "Neither"). Views on harm are more mixed but tilt away from concern. Reports of feeling intimidated by the internet are also comparatively low, with only 3.7% responding "Yes, a lot" and 17.0% "Yes, a little".

Figure 3: Internet Attitude



Base n=138 (all participants). Valid n ranges from 133-136. Percentages based on valid n.

Internet Usage and Outcomes

Table 8. App Usage (n=120)

	Frequency (n)	Valid %
Messaging Apps		
WhatsApp	85	70.8
Email (Gmail, etc.)	70	58.3
Texting / SMS	69	57.5
Facebook Messenger	68	56.7
Telegram	25	20.8
Signal	14	11.7
Viber	10	8.3
Social Media Apps		
Facebook	76	63.3
Instagram	43	35.8
TikTok	43	35.8
Twitter/X	13	10.8
VK	2	1.7
Other Apps		
YouTube	105	87.5
Browser (Chrome, Safari, etc.)	77	64.2
Maps	73	60.8
Telephone	68	56.7
Weather apps	58	48.3
Music streaming	55	45.8
Music	44	36.7
Video streaming (non-YouTube)	37	30.8
Apps targeted to homeless people	26	21.7
Dating apps (Tinder, Grindr, Bumble,...)	15	12.5

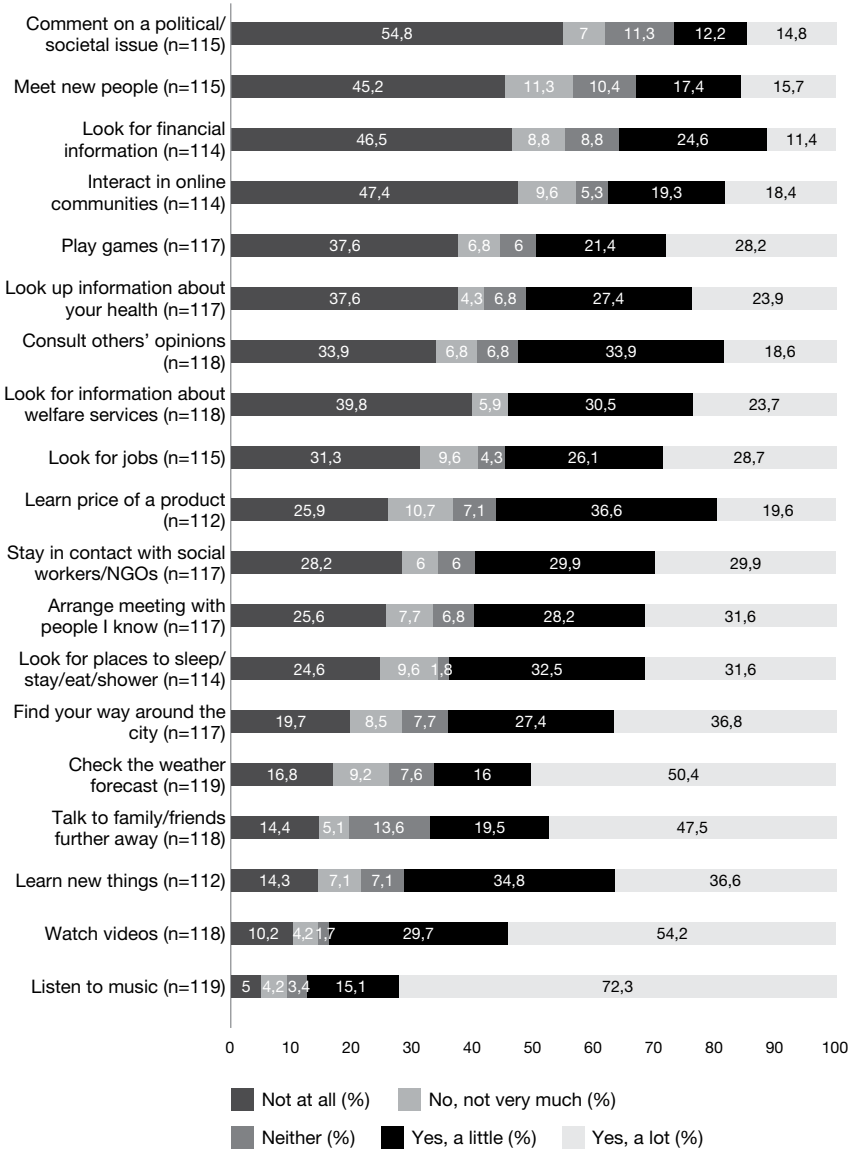
Base n=120 (internet users). Multi-answer. Percentages based on base n.

Messaging is near-universal and multi-channel: WhatsApp 70.8% (n=85), email 58.3% (n=70), SMS 57.5% (n=69), and Facebook Messenger 56.7% (n=68) are the most widely used communication tools. Facebook is the leading social platform at 63.3% (n=76), with Instagram 35.8% (n=43) and TikTok 35.8% (n=43).

Among other apps, YouTube is the clear standout – and overall most used app – at 87.5% (n=105), underscoring video as a central activity. Core utilities follow: browser apps 64.2% (n=77), Maps 60.8% (n=73), and telephone apps 56.7% (n=68). Everyday information and entertainment tools are also widely used – weather 48.3% (n=58), music streaming 45.8% (n=55), and music players 36.7% (n=44) – while non-YouTube video streaming appears for 30.8% (n=37). By contrast, apps targeted to homeless people are used by only 21.7% (n=26).

Everyday media and practical utilities dominate use cases as presented in Figure 5. “Listen to music” is most prominent with a majority selecting “Yes, a lot” (72.3%), followed by “Watch videos” (54.2% “Yes, a lot”) and “Check the weather forecast” (50.4% “Yes, a lot”). Communication and orientation are also central: “Talk to family/friends further away” (47.5% “Yes, a lot”) and “Find your way around the city” (36.8% “Yes, a lot”). Learning-oriented use is common – “Learn new things” (36.6% “Yes, a lot”) – as are practical needs tied to housing precarity: “Look for places to sleep/stay/eat/shower” (31.6% “Yes, a lot”), “Arrange meetings with people I know” (31.6% “Yes, a lot”), and “Stay in contact with social workers/NGOs” (29.9% “Yes, a lot”).

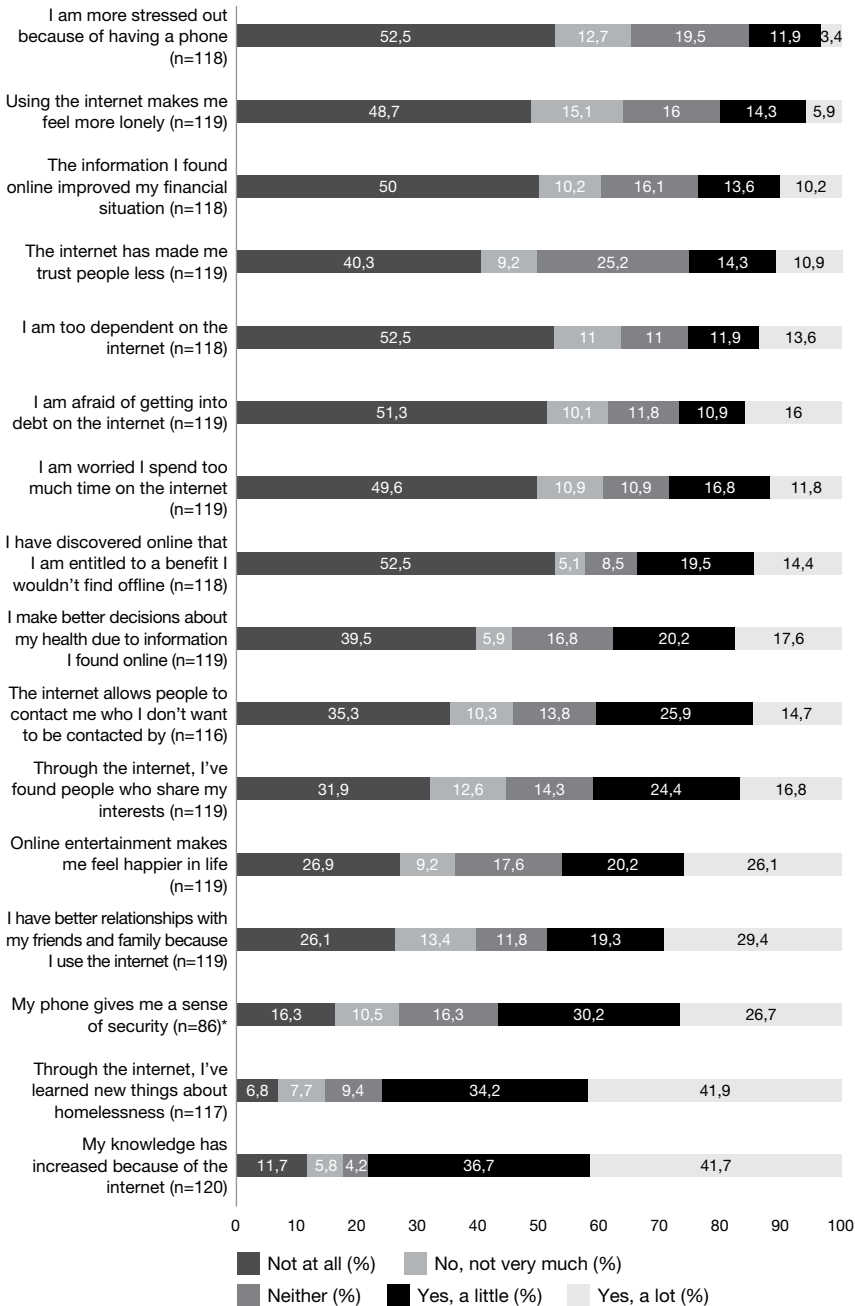
Figure 4: Use Cases



Base n=120 (internet users). Valid n ranges from 112-119. Percentages based on valid n.

Employment and service searches sit in the middle of the distribution – “Look for jobs” (28.7% “Yes, a lot”) and “Look for information about welfare services” (23.7% “Yes, a lot”) – while expressive or community activities are less common at the high-intensity level (e.g., “Comment on a political/societal issue” (14.8% “Yes, a lot”); “Interact in online communities” (18.4% “Yes, a lot”). Read alongside the app-usage results, use concentrates on media consumption and practical coordination/navigation.

Figure 5: Internet usage outcomes



Base n=120 (internet users). Percentages based on valid n for each question.
*Due to an error in the survey tool, this question was not included in the first few days of the survey and has a base n=86.

Reported outcomes are predominantly positive or neutral. A large majority agree that “my knowledge has increased because of the internet” (41.7% “Yes, a lot”; 36.7% “Yes, a little”). Many also endorse “my phone gives me a sense of security” (26.7% “Yes, a lot”; 30.2% “Yes, a little”; note the smaller base for this item). Entertainment registers as beneficial for some – “online entertainment makes me feel happier in life” shows 26.1% “Yes, a lot” and 20.2% “Yes, a little”.

Potential downsides are less commonly endorsed at high levels: “using the internet makes me feel more lonely” is 5.9% “Yes, a lot” and 14.3% “Yes, a little”; “the internet has made me trust people less” is 10.9% “Yes, a lot” and 14.3% “Yes, a little”; and “I am afraid of getting into debt on the internet” is 16.0% “Yes, a lot” and 10.9% “Yes, a little.” Finally, “the internet allows people to contact me who I don’t want to” has a mixed profile (around two-fifths neutral/negative and roughly two-fifths positive), suggesting ambivalence about potential undesired contact.

Overall, respondents most clearly highlight knowledge gains and a sense of security (for many), with loneliness, mistrust, and debt concerns present but concentrated in smaller subgroups.

Key Takeaways

Internet use is widespread among unhoused people in Berlin, but device ownership lags behind, pointing to a structural access gap. While 87% of participants reported using the internet in the last 12 months, only 61.6% owned any internet-enabled device, and 59.4% owned a smartphone at the time of the survey. This mismatch suggests that many people are reliant on borrowed, shared, or temporary devices. For service design, this suggests potential value for targeted smartphone distributions, ideally pairing devices with practical accessories (screen protectors, robust cases with lanyards/cords) and options for safe storage in shelters. Where possible, devices should be chosen for stability, large batteries, and headphone jacks, and bundled with power banks and headphones. Because loss is frequent, distributions should plan for this, for example, by setting clear frequency limits and supporting account backup and cloud recovery at handover.

Among internet users, 93.3% used Wi-Fi in the last year; key locations included public transport (81.3%), Free Wi-Fi Berlin (58.9%), NGOs (50.9%), and shops (42.9%). As of 2022, this means that people were often relying on public spaces and transit for connectivity. This may, of course, be influenced by this survey being carried out during the Covid-19 pandemic – more recent research is needed here. Nonetheless, for service organisations, this points towards the importance of

strengthening Wi-Fi availability, particularly across low-threshold services. Providing reliable Wi-Fi in these safer environments could help reduce reliance on precarious public access points.

Internet use among those who are connected is intensive: 69.7% of internet users go online daily, and 36.1% do so for more than four hours per day. Core apps reflect a mix of media, communication, and practical navigation: YouTube (87.5%), WhatsApp (70.8%), browsers (64.2%), Maps (60.8%), Facebook (63.3%), and Messenger (56.7%) are all widely used. Respondents also report generally positive attitudes toward the internet, as well as reporting mostly positive outcomes from their usage. Together, these findings suggest that digital channels are not marginal but central to everyday life for unhoused people who are online. Service design should therefore “meet people where they are” by using the messaging apps they already rely on for two-way outreach and appointment reminders, and by ensuring service point information (locations, hours, contact details) is up to date on maps platforms. Raising awareness of, and improving the perceived usefulness of, existing apps specifically targeted at unhoused people could build on these established digital habits with targeted offers, rather than trying to substitute them.

Self-reported digital skills among internet/phone users are generally good. Respondents were less confident around privacy settings and photo/text editing. These are areas where practical training could yield quick and meaningful gains. Supporting people in managing privacy settings could reduce vulnerability; basic media production/editing skills would make it easier to complete bureaucratic or productivity-focused tasks.

Finally, only around half of internet users in the survey had used a computer in the last year, despite many essential tasks – especially bureaucratic or administrative ones – not being optimised for mobile devices. Exclusive reliance on smartphones can make complex online processes harder to complete. Service providers could help address this by offering access to laptops or desktop computers in safe environments – if this is something that service users indicate they would find helpful.

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Appendix 1: Constructs and their Source

Table 20. Constructs and Sources

Construct	Source
Housing status	ETHOS (FEANTSA, 2017a)
Educational Level	ISCED 2011 (Schneider, 2013)
Means of subsistence	Ratzka & Kämper, 2018
Physical Health	Pérez-Zepeda et al., 2016
Mental Health	Ahmad et al., 2014
Alcohol Usage	M-SASQ (Kaner et al., 2009)
Drug Usage	Smith et al., 2010
Internet Attitude	Internet Attitude Scale (Joyce and Kirakowski, 2015)
Vulnerability	Vulnerability Assessment Tool (DESC, 2015)
Internet Skills	Internet Skills Scale (van Deursen et al., 2016)
Common app uses	Humphry, 2014
Internet usage diversity	van Deursen & van Dijk, 2019
Internet usage frequency	van Deursen & van Dijk, 2019
Internet Outcomes	van Deursen & van Dijk, 2019

Appendix 2: Equivalence Testing

There is no dataset directly comparable to our frame, but the closest is the state-level, disaggregated Wohnungslosenberichterstattung 2024 (Bohlender et al., 2024; Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen, 2024), here shortened to WBE24, which uses a rigorous national methodology to enumerate homelessness in Germany. WBE24 reports two distinct counts: WBE24a (people in institutional accommodation) and WBE24b (people without accommodation or in hidden homelessness, aligned with ETHOS Light categories 1, 5, and 6, measured in the week prior to survey (FEANTSA, 2017b). Because the two counts use different frames, combined demographics cannot be derived. Our inclusion criteria – day-centre users falling into ETHOS categories 1–8 and 11–12 for at least one night in the last 12 months – do not align perfectly with either count. Nonetheless, WBE24b is the closer conceptual match for our sample, given that our sampling frame is day-centre users, a low-threshold service that primarily attracts people who are currently without accommodation or in unstable/hidden situations (e.g., rough sleeping, couch-surfing), because day centres provide unmet daytime needs.

We therefore compared our sample's demographics to WBE24b using a two one-sided tests (TOST) on differences in proportions as an equivalence test. We recoded our variables to match WBE24b categories (e.g. collapsing gender to male/female; dropping non-binary categories for this specific comparison). We treated both sources as samples and formed 90% CIs for proportion differences. We pre-specified ± 15 percentage points (pp) as our equivalence bound, motivated by

feasibility with $n \approx 130$ (tighter bounds would be under-powered), and frame/mode differences that justify a modest tolerance while still flagging meaningful composition gaps. We also report equivalencies at bounds of ± 12.5 pp and ± 10 pp. In practice, a confidence interval is the plausible range for the true difference between our sample and WBE24b. The equivalence margin (e.g., ± 15 pp) is a tolerance band for “close enough” in practice. If the whole CI stays inside that band, we understand the groups as broadly similar with regard to that particular demographic variable.

Using 90% confidence intervals, our sex and broad age distributions are equivalent to WBE24b at ± 15 percentage points (pp), while citizenship is not. Male share is $+5.1$ pp (90% CI -0.5 , $+10.8$) and female -5.1 pp (-10.8 , $+0.5$) – both within ± 15 pp. Age shows a similar pattern: <30 is -6.3 pp (-11.4 , -1.2) and $30+$ is $+6.3$ pp ($+1.2$, $+11.4$), again inside the band. By contrast, citizenship differs materially: German is $+19.9$ pp ($+12.6$, $+27.1$) and non-German -19.9 pp (-27.1 , -12.6), which exceeds ± 15 pp. The sex and age findings also hold at ± 12.5 pp, but not at ± 10 pp (their CIs cross those tighter limits).

These findings provide bounded comparability on sex/age while highlighting a substantive gap in citizenship. Given frame and mode differences between our study and WBE24b, equivalence results should be read as a screen for major skews, not as evidence of representativeness or transportability. Future work on digital media use among unhoused people in Germany should, alongside efforts to improve sampling, harmonise inclusion criteria with WBE24 definitions where feasible to enable cleaner comparisons and/or potential post-hoc weighting.

Table 21. Two one-sided test analysis comparing our sample demographics with WBE24b

Measure	Our sample (n, %)	WBE24 (n, %)	Diff (pp) & 90% CI	Equiv ± 15 pp	Equiv ± 12.5 pp	Equiv ± 10 pp
Gender – Male	132, 81.06%	6 049, 75.94%	+5.12 [–0.54, +10.78]	Yes	Yes	No
Gender – Female	132, 18.94%	1 916, 24.06%	–5.12 [–10.78, +0.54]	Yes	Yes	No
Age – <30	135, 14.81%	1 681, 21.08%	–6.27 [–11.35, –1.19]	Yes	Yes	No
Age – 30+	135, 85.19%	6 292, 78.92%	+6.27 [+1.19, +11.35]	Yes	Yes	No
Citizenship – German	130, 53.08%	2 634, 33.21%	+19.87 [+12.62, +27.12]	No	No	No
Citizenship – Not German	130, 46.92%	5 298, 66.79%	–19.87 [–27.12, –12.62]	No	No	No

Differences are our % – WBE24%. CIs are 90% Wald. Equivalence at a bound means the entire 90% CI lies within that $\pm pp$ band. Shaded cells within respective equivalence bounds.