

Article

# Conviviality in Public Squares: How Affordances and Individual Factors Shape Optional Activities

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## Abstract

Conviviality can briefly be defined as togetherness among strangers despite their differences. While most of the research on conviviality focuses on (inter-)cultural differences, this article argues that considering other kinds of differences (e.g., socio-economic status, gender, age, stage of the life course, etc.) may increase our understanding of conviviality. In addition, to help us measure the convivial use of public space, the article looks at participation in “optional activities” (e.g., enjoying the sun, playing), which contribute to a convivial atmosphere by encouraging people to be co-present, thus offering the potential for “thicker sociability.” Based on fieldwork consisting of behavioural mapping ( $n = 1,448$ ) and an intercept survey ( $n = 1,474$ ), this study explores key factors that increase the likelihood of people using three small public squares in Zurich, Switzerland, in a convivial way. A logistic regression model based on survey data shows that, even when controlling for individual factors, the squares and their affordances contribute substantially to convivial use, e.g., by providing ample seating. The model furthermore suggests that gender, people’s relationship to the neighbourhood, their occupation, and the time of day, are more significant factors in shaping convivial use of the squares than the cultural background, socio-economic status, age, or having children.

## Keywords

affordances; conviviality; diversity; neighbourhood; public familiarity; public space; public square

## Issue

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## 1. Introduction

Public space has long been described as a place where urban dwellers come face to face with each other and with a city’s diversity (Lofland, 1973). These encounters between strangers may be fleeting but still form part of spatial practice in urban public spaces (Zieleniec, 2018). The term “conviviality” neither romanticizes nor stigmatizes these encounters but rather emphasizes the fact that they are an essential part of “a shared human condition” (Sandström, 2020, p. 180) across social differences.

Against the backdrop of an increasingly diverse, or hyper-diverse (Tasan-Kok et al., 2014) urban population, coupled with the privatization of public space and diminishing private open spaces due to densification, the capacity of public spaces to host convivial encounters is becoming an important issue of social infrastruc-

ture (Layton & Latham, 2022). Although not all “registers of sociality” (Layton & Latham, 2022) in public spaces can be termed convivial, co-presence and fleeting encounters are the preconditions for “thicker sociability” (Bodnar, 2015).

While most studies on conviviality rely on qualitative methods (mostly ethnographic research; e.g., Koch & Latham, 2012; Radice, 2016; Wessendorf, 2014), this article takes a quantitative approach. It sees “optional activities” (Gehl, 2011), i.e., activities for which there is no need or which could also take place elsewhere, as an indicator of the convivial use of public space and aims to shed light on who, from a hyper-diverse population, takes part in optional activities and thus contributes to conviviality and “commonplace diversity” (Wessendorf, 2014). This research also examines the role of the “material base” (Peattie, 1998): the physical

environment, its artefacts, and their respective affordances (Davis, 2020).

This approach provides new insights into the role of the environment and individual characteristics. It allows us, for example, to decouple the effect of gender from childcare duties, or to consider how conducive an environment is to optional activities regardless of the users' individual characteristics.

Drawing on a case study of three public squares in Zurich, Switzerland, I address the following questions: What is the role of a public square's affordances (Davis, 2020) in its convivial use, and who is most likely to use it convivially, i.e., to take part in optional activities? Using datasets from an intercept survey and behavioural mapping conducted on-site, this article contributes to the literature by integrating a design and behavioural perspective (Ganji & Rishbeth, 2020) to explore the key factors contributing to convivial use.

This article first outlines the theoretical concepts linking conviviality and optional activities with responsive environments (Bentley et al., 1985) and their affordances. A review of the empirical literature on the topic is followed by the case study, fieldwork, and data analysis. General trends in the use of public squares are then outlined, before exploring the factors which encourage convivial use. Finally, I discuss how the concepts of hyper-diversity and affordances add to our understanding of conviviality.

## 2. Conceptual Framework

Conviviality can be defined as a kind of “‘rubbing along’, includ[ing] not just ‘happy togetherness’ but negotiation, friction and sometimes conflict” (Wise & Noble, 2016, p. 425). This article adopts a perspective of conviviality that has been termed “convivial spaces” by Nowicka and Vertovec (2014). This is one of three main ways in which the concept of conviviality is used in scientific literature (the others being “convivial collectivities” and “convivial everydayness”). It focuses on the socio-spatial aspects of conviviality in examining the “material-practical arrangements” that enable a “collective life marked by openness and accommodation of difference” (Koch & Latham, 2012, p. 521).

Any quantitative study must inevitably define the meaning of conviviality and conceptualize it in a measurable way. I use Gehl's (2011) categorization of activities to link behaviour in public squares and conviviality. Gehl classifies activities in public space along a continuous scale from “necessary” to “optional.” Necessary activities (such as passing through space to get somewhere else or waiting for a bus) take place regardless of the environment, while optional activities are characterized by a low degree of necessity. They either do not have to take place at all (e.g., sitting and enjoying the space, taking photographs) or could easily take place somewhere else (e.g., supervising children, sitting down to eat). Optional activities only take place under

favourable conditions and therefore indicate a pleasant environment. They contribute to a convivial atmosphere because they tend to prolong stays, and as Gehl (2011, p. 182) states, “lengthy stays mean lively streets.” Optional activities are thus a suitable, albeit limited, indicator of convivial use.

A square's affordances might attract users seeking recreation, or even encourage people who use it for necessary activities to engage in occasional optional activities. In his seminal work, Gibson (1986) states that affordances are “what [the environment] offers to the animal, what it provides or furnishes, either for good or ill” (Gibson, 1986, p. 127). They are relational in that they capture the interaction between the material world and human beings (Lanng & Jensen, 2022) and “apply varying levels of pressure on socially situated subjects” (Davis, 2020, p. 8), being hence neither binary nor determinant.

Similarly, Bentley et al. (1985) are concerned with environments that are responsive to their users' needs: Responsive environments provide users with an arrangement that “enrich[es] their opportunities by maximizing the degree of choice available to them” (Bentley et al., 1985, p. 9). Responsive environments are defined by seven qualities: permeability, variety, legibility, robustness, visual appropriateness, richness, and personalization. In the context of this research, robustness is of particular interest. Robust spaces offer an environment that can accommodate a wide range of activities (including unplanned activities) and thus potentially support diversity. In the case of public open spaces primarily used by pedestrians, seating is identified as a key affordance to make people “colonize the centre of the space” (Bentley et al., 1985, p. 73).

Seating opportunities, and other affordances in general, are often intentionally designed to encourage or discourage certain practices (Aelbrecht et al., 2019). However, different uses of space than those intended may also arise from creative appropriation by users. Primary seating (Gehl, 2011) such as chairs or benches afford sitting by design but may have multiple other uses: lying down, propping up one's legs, facing others in conversation, etc. Elements such as window ledges, fountains or steps offer much the same affordances and are therefore called secondary seating, despite different design objectives. The potential for personal appropriation, or personalization, further enhances an environment's responsiveness (Bentley et al., 1985).

The analysis of users is underpinned by the concept of hyper-diversity (Tasan-Kok et al., 2014). While most research on conviviality focuses on (inter-)cultural differences (Radice, 2016), Tasan-Kok et al. (2014, p. 6) draw attention to “an intense diversification of the population in socio-economic, social and ethnic terms, but also with respect to lifestyles, attitudes and activities.” These differences may create just as much friction as (inter-)cultural ones and therefore merit closer inspection when studying conviviality.

### 3. Factors Shaping Optional Activities in Public Space: Literature Review

While there is abundant empirical literature on the use of public squares in general (e.g., Papatzani & Knappers, 2020; Ridings & Chitrakar, 2021; Rishbeth & Rogaly, 2018), little is known about the characteristics of square users who engage in optional and not only necessary activities. I, therefore, included literature on the recreational use of more broadly defined open spaces (e.g., parks, streets) that investigates which user groups are attracted to which spaces and which activities, taking into consideration gender, ethnicity, social status, age, and relationship to the neighbourhood.

Previous research has revealed gender differences: Women tend to visit parks less frequently than men due to (perceived) safety issues (Bühler et al., 2010; Ganji & Rishbeth, 2020) and are more attracted to playgrounds and areas where parental duties can easily be exercised (Gilmore, 2017). They usually visit with family, whereas men are more likely to visit alone or with friends (Jay & Schraml, 2009), to engage in physical activities (Baran et al., 2014; Ostermann, 2009), and stay longer (Huang & Napawan, 2021). Numerous studies show that cultural and religious practices shape gendered recreational use (e.g., Gilmore, 2017; Huang & Napawan, 2021; Sadeghi & Jangjoo, 2022).

Studies from several countries report ethnocultural differences in recreational use: non-Western migrants tend to visit parks in larger groups and for more family- or community-oriented activities (Baran et al., 2014; Lesan & Gjerde, 2020). However, while some authors note that parks attract all cultural groups (Veal, 2006), others find that non-Western migrants are less likely to visit parks (Schipperijn et al., 2010) and that non-Whites are significantly underrepresented in some parks (Reichl, 2016).

Regarding social status and age, studies found that people with higher levels of education and higher incomes tend to visit parks or green spaces more often, and recreational use of public spaces is more common among older people (Bergefurt et al., 2019; Schipperijn et al., 2010). Others report an underrepresentation of elderly people in parks (Bühler et al., 2010). Evidence on the effect of occupational status on recreational use due to time constraints is scarce, with mixed results in those cases where it is studied (Bassand et al., 2001; Veal, 2006).

People's relationship to the neighbourhood is also found to be associated with recreational use. Residents who feel attached to their neighbourhoods use green spaces more often for recreational activities than those who don't (Bergefurt et al., 2019). Living in proximity to a green space also raises the odds of using it recreationally compared to living further away (Schipperijn et al., 2010). Blokland and Nast (2014) conceptualize the experience of belonging to a neighbourhood in terms of "public familiarity." Public familiarity is rooted in spatial practice, but it highlights that practices need not always be active

attempts to build neighbourly ties. Indeed, even the thin sociality of merely observing other people contributes to public familiarity and invisible ties (Felder, 2020). The figure of the familiar stranger, a stranger whose face is nevertheless recognized, is emblematic of this type of relationship to the neighbourhood. Familiarity, as suggested by Felder (2021, p. 194), may well serve as a link between people's relationship to the neighbourhood and conviviality.

Optional activities undeniably have a temporal dimension through their daily, weekly, and seasonal rhythms. They are also subject to time constraints and thus people's participation is likely to be influenced by their occupational status. It could be hypothesized that retired people, job seekers and people who work part-time are more likely to do optional activities than those working full-time. The aforementioned studies, however, suggest that the relationship is more complex. The concept of "time in-between," i.e., the time "during which people are on their way to live the rest of their lives" (Blokland & Nast, 2014, p. 1143) is an essential constituent of neighbourhood belonging. Assuming that being an active part of the labour force accounts for a big part of the time in between, being employed might foster optional activities via neighbourhood belonging.

Thus, public spaces, to varying degrees, invite recreational use or optional activities, but this invitation is not perceived equally across population groups. The studies discussed so far suggest that besides the sociodemographic characteristics of individuals, the role of the squares' affordances, people's relationships to the neighbourhood and the temporal dimension merit closer inspection.

### 4. Context and Research Methods

#### 4.1. Case Study

This research was conducted in Zurich, Switzerland's largest city (436,000 residents), situated in the German-speaking part. As it studies the convivial use of public squares, a practice that is closely connected to the particularities of the local spatial context, a case study approach was chosen. To make the study and its findings more robust I opted for a multiple-case design. Three contrasting cases help explore the specificities and similarities of the environment's role in shaping convivial use.

Case selection occurred in two stages according to two sets of criteria. The use of public squares is likely to depend not only on their design but also on the urban structure and the population in the surrounding neighbourhood. Therefore, initially, three contrasting neighbourhoods were selected based on density, jobs-housing balance, income heterogeneity, percentage of family households, and percentage of people without Swiss nationality (Table 1). Then, from each neighbourhood, one square was selected that met the following criteria: feasibly sized for fieldwork (1,500–2,000 m<sup>2</sup>),

publicly owned, “open and available to all and catering for a wide variety of functions” (civic spaces; Carmona, 2010, p. 169), not dominated by one function (traffic, playground, etc.), sufficiently clear borders, district-wide or neighbourhood-wide relevance (according to categorization by Stadt Zürich, 2006).

The squares resulting from this process—Lindenplatz, Hallwylplatz, and Idaplatz, and their respective neighbourhoods—are briefly presented in the following paragraphs (see Figures 1 and 2). None of the squares has formal management, and all three are open to the public 24 hours a day.

Lindenplatz is situated in Altstetten, a neighbourhood on the outskirts of Zurich. Altstetten is the least densely populated of the three neighbourhoods (250 employees and inhabitants per hectare). The jobs–housing balance is the same as for Zurich as a whole (1.4), meaning there are more jobs than inhabitants in Altstetten. Income heterogeneity, defined by the difference between the 75- and 25-percentile of income (the higher this difference, the more spread out or heterogeneous the income distribution) is below Zurich’s average (42,800 CHF vs. 49,000 CHF), with incomes generally being on the lower side. Altstetten has the highest percentage of family households of the three neighbourhoods (23.5%), as well as the highest percentage of people without Swiss nationality (36.2%).

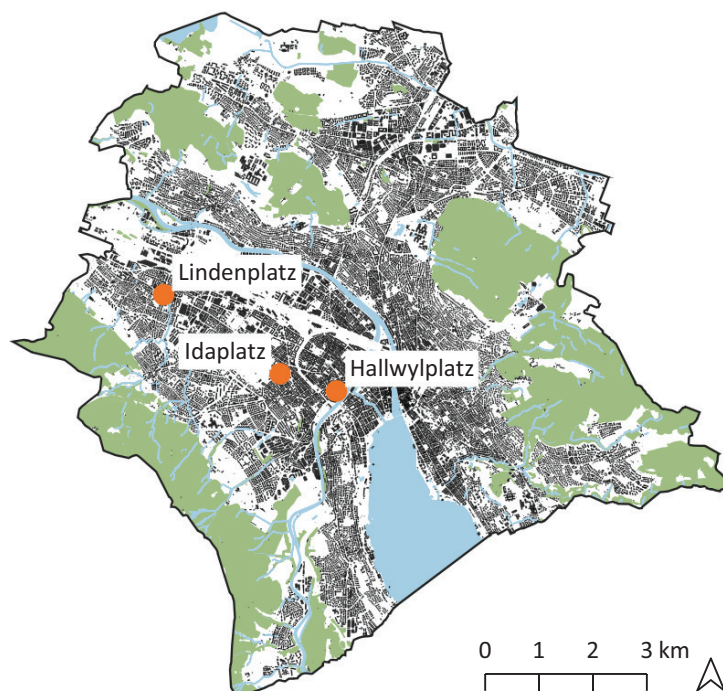
The Lindenplatz square is framed on three sides by buildings, and by a busy road with public transport stops on the fourth. It dates from the 1950s and was redeveloped in 2010. The square now features trees, a fountain, several benches facing water features on the ground, and a large open area which affords space for a biweekly

farmers’ market and cultural events. The surrounding buildings house several cafés and restaurants, a hotel, a kiosk, public toilets, the district administration, a pharmacy, several shops, and two supermarkets.

Hallwylplatz is located near the city centre in the Werd neighbourhood, one of Zurich’s most densely populated areas (740 employees and inhabitants per hectare). The number of jobs is more than three times the number of inhabitants (3.2). Income heterogeneity is slightly above average (51,300 CHF). The share of family households in Werd is small (15.5%), a fact that may be attributed to its centrality and the correspondingly higher rents. Having significantly decreased in recent decades due to gentrification, the percentage of people without Swiss nationality in Werd is now close to the average (33.6%).

Despite several attempts, no major redevelopment of the Hallwylplatz Square has occurred since the 1990s. It is furnished with some benches and a shallow fountain affording the option to paddle and splash about. Neighbours have provided additional affordances by equipping it informally with a barbecue grill, movable chairs, picnic tables, children’s slide, and table tennis equipment. Two restaurants, several takeaways, a shop, a hairdresser, and a bicycle courier company can be found in the buildings on the square.

Idaplatz is located in the Sihlfeld neighbourhood. Its density is above average (391 employees and inhabitants per hectare), owing more to inhabitants than employees (jobs–housing balance: 0.8). Income heterogeneity is below average (46,500 CHF), as is the percentage of family households (18.7%). As is the case for Werd, the percentage of people without Swiss nationality is close



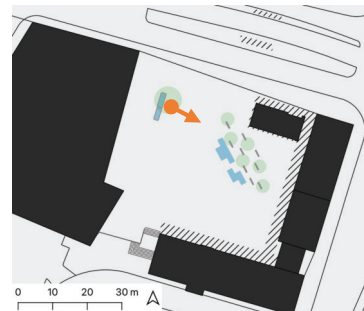
**Figure 1.** Location of the three squares in the city of Zurich.

**Table 1.** Neighbourhood characteristics.

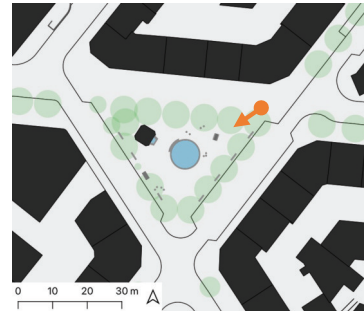
		Altstetten (Lindenplatz)	Werd (Hallwylplatz)	Sihlfeld (Idaplatz)	Zurich
Density	(Employees + inhabitants) / ha	250	740	391	312
Jobs–housing balance	Ratio between employees and inhabitants	1.4	3.2	0.8	1.4
Income heterogeneity	Difference between 75- and 25-percentile of taxable income*	42,800 CHF	51,300 CHF	46,500 CHF	49,000 CHF
Percentage of family households		23.5%	15.5%	18.7%	24.2%
Percentage of people without Swiss nationality		36.2%	33.6%	31.0%	32.2%

Notes: \* Non-married tariff. Data refers to 2019 (except for income heterogeneity where data refers to 2017). Sources: Stadt Zürich (2020a, 2020b).

Lindenplatz



Hallwylplatz



Idaplatz



- Point and direction from which picture was taken
- Tree
- Water features
- Benches, chairs, edges

**Figure 2.** Photo and map of each square.

to average (31.0%), but only because it has decreased in recent years in the process of gentrification.

Following the redesign of the square in 2006, Idaplatz has become a popular spot for going out in the warmer months, including among people from outside the neighbourhood. Several bars, restaurants, and shops are located on the surrounding streets. The square itself consists of a slightly elevated gravelled surface with ramps and flattened-out corners ensuring wheelchair accessibility. Trees of different sizes allow for both sunny and shady spots on the numerous benches, some of which are arranged around a drinking fountain.

#### 4.2. Fieldwork Methodology

An analysis of the environmental qualities of the three squares was carried out drawing on Bentley et al. (1985). Although all seven qualities identified by these authors were covered (permeability, variety, legibility, robustness, visual appropriateness, richness, and personalization), this article only reports on seating as part of an environment's robustness. Seating opportunities provide positive affordances for optional activities. A seating ratio was calculated by dividing linear seating by surface area (as a rule of thumb, Bentley et al. suggest a minimum of 30 cm of linear seating, i.e., approximately one seat per 3 m<sup>2</sup>; Bentley et al., 1985, p. 73).

Data were gathered during the summer of 2021 in dry weather, against the backdrop of the global Covid-19 pandemic. The threat of infection with coronavirus, and the protective measures taken against it by the Swiss government in 2020 and 2021, undoubtedly had an effect on public life and mobility practices. This affected both presence and behaviour in public spaces. However, at the start of the fieldwork, in late May 2021, there were no longer any restrictions in place in Switzerland regarding outdoor behaviour, and the vaccination campaign was showing positive effects. In terms of mobility, mean distances travelled and radii were comparable to pre-covid times, and the number of commuters was up to 80% of pre-Covid times (intervista AG, 2021). Nevertheless, public life was still likely to be affected

by individual cautiousness. The fieldwork was divided into two waves (May/June and August/September) to account for differences in the epidemiological situations. Despite a more relaxed context during the second wave, the composition of public square users did not differ significantly between the two waves. This finding suggests that the external validity is not too strongly compromised by the pandemic, but comparison with pre-covid times is impossible.

The fieldwork on users and their activities consisted of behavioural mapping (Gehl & Svarre, 2013) and an intercept survey (Velu & Naidu, 2009). During repeated mapping sessions (12–2 pm and 4–6 pm on weekdays, and 12–2 pm on a Saturday), stationary users were coded with their location, estimated age group, gender, posture, type of activity, and duration, resulting in 1,448 observations (Figure 3).

An intercept survey administered by researchers was used to gain data on unobservable characteristics such as socio-economic status or migrant background. Besides socio-demographic information, the questionnaire (available in German, English, and French) contained questions on the use of the square (type of activities, frequency, duration) and the respondent's relationship to the neighbourhood.

Research assistants and the author tried to approach all square users who looked older than 18. In a few cases, the respondents turned out to be younger, so the minimum age in the sample is 15. Each square was surveyed twice for each timeslot (8–10 am, 12–2 pm, 4–6 pm on Tuesday/Thursday, and 12–2 pm or, due to a time clash with the farmer's market in the case of Lindenplatz, 2–4 pm on Saturday), yielding 1,474 responses (Lindenplatz: 492, Hallwylplatz: 464, Idaplatz: 518), with an average response rate of 36.4% (the number of responses divided by the total number of people approached; refusals, i.e., people who were approached but did not participate were recorded by noting their apparent gender and age group).

Response rates vary according to age and gender; the lowest response rate was for women below 25 (25.5%), and the highest was among men aged 25 to 65 (39.4%;



**Figure 3.** Maps of users recorded during behavioural mapping sessions.

see Table 4 in the Supplementary File). Nonetheless, these differences are not significant and do not account for the fact that non-German speaking people and people who were not born in Switzerland are underrepresented compared to the neighbourhood population. People with a university degree and those with average incomes are overrepresented.

It should be noted that under- or overrepresentation can stem from lower/higher use by the residents, from an influx of people from outside the neighbourhood, or from different response rates by these specific population groups. For this study, these biases are considered unproblematic because (a) the three squares show sufficiently different distributions to rule out a method-driven response pattern, and (b) the sociodemographic variables are controlled for in multivariate analyses.

#### 4.3. Data Analysis and Variable Description

In addition to descriptive statistics, binary logistic regression was used to analyse the survey data. Optional activity was used as the dependent variable in the regression models. The dummy variable takes the value of 0 for those only engaged in transit or shopping activities, and 1 for those doing optional activities such as eating, drinking, and spending time alone, with friends, or family, etc.

The regression models aim to explore the relationship between explanatory variables and optional activities when controlling for other variables, rather than to make predictions or establish causal effects. Explanatory variables were identified based on the literature review. They include the variable square (indicating in which square an individual was surveyed), and the three groups “relationship to the neighbourhood,” “temporal dimension,” and “sociodemographics.”

The relationship to the neighbourhood is modelled by two dummy variables. Neighbourhood indicates whether someone lives in the neighbourhood, i.e., in proximity to the square, and familiar stranger whether someone recognised a familiar face in the square by chance.

The temporal dimension is captured by the timeslot in which people were surveyed and by occupation, coded as a dummy variable indicating being/not being (self-)employed.

Sociodemographic information includes gender, age, and being accompanied by children as a proxy for life course stage, and two variables crudely indicating migrant background—born in Switzerland (yes/no) and main language: German (yes/no). Socio-economic status is captured by income (equivalized income according to the OECD modified scale; Hagenaaers et al., 1994), in three categories, low/average/high, based on the median) and the highest level of education (no formal or only compulsory education/secondary, i.e., vocational education and training, general education/tertiary, i.e., university degree or equivalent).

Since people were approached on the street unprepared, the questionnaire had to be very short. Because of this, and due to the limited sample size within the squares, for some variables, it was either not possible to collect more nuanced data and/or not feasible to analyse it according to detailed categories. For example, apparent gender is coded as a binary and migrant background rests on two relatively quick questions about language and country of birth. I am aware that sorting people into statistical categories masks a substantial part of (hyper-)diversity within the categories. However, it allows us to explore relationships between the convivial use of squares and sociodemographic groups in broad terms.

It is assumed that a square’s affordances and the timeslot influence the likelihood of carrying out optional activities independently of individual characteristics. To account for this random effect of square and timeslot, a mixed effects logistic regression model was performed (McNulty, 2021). Additionally, a purely fixed model was run. The fixed model is reported here as the direction and significance of the effects did not change and for ease of comparison of the three separate models by square.

The models measure the effect of each variable, all things being equal, on the propensity to participate in optional activities in terms of odds ratios. An odds ratio above one means the group in question has higher odds of taking part in optional activities in the square than the reference group.

Table 5 in the Supplementary File shows the frequency distribution of all variables used in the regression. The regression model is based on complete cases only ( $n = 1,087$ ). All other analyses include the whole sample ( $n = 1,474$ ).

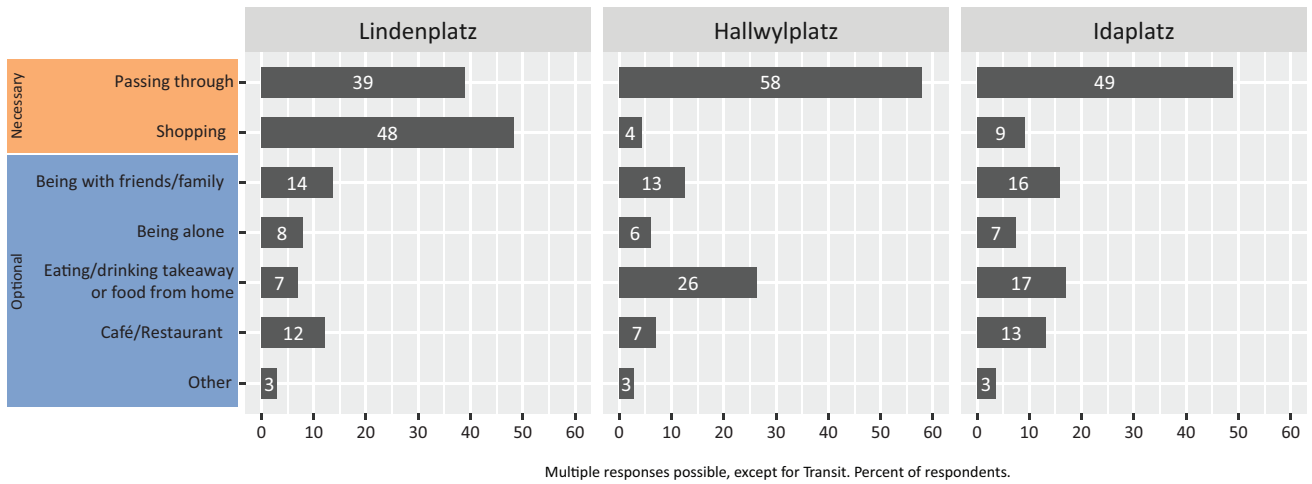
## 5. Convivial Public Square Use

### 5.1. General Trends

First, the way in which the squares are used is defined by looking at the types of activities people carry out, the proportion of optional activities, the seating affordances, and the time people spend there.

Figure 4 displays the relative frequency of the different activities people were carrying out at the time of being surveyed. In comparison to the other two squares, Lindenplatz has a lower percentage of people passing through, presumably because it is framed by buildings on three sides. Its many shops, making it almost a commercial centre, are reflected by the high proportion of people who were shopping. Despite its utilitarian character, between 7% and 14% of the users were also engaged in spending time with friends/family or being alone in public, consuming self-brought food/drink or visiting one of the cafés/restaurants.

As for Hallwylplatz and Idaplatz, the majority of people are only crossing the square (58% and 49% respectively were passing through). Of the activities



**Figure 4.** Current activities. Shopping is considered a necessary activity as it was most frequently grocery shopping.

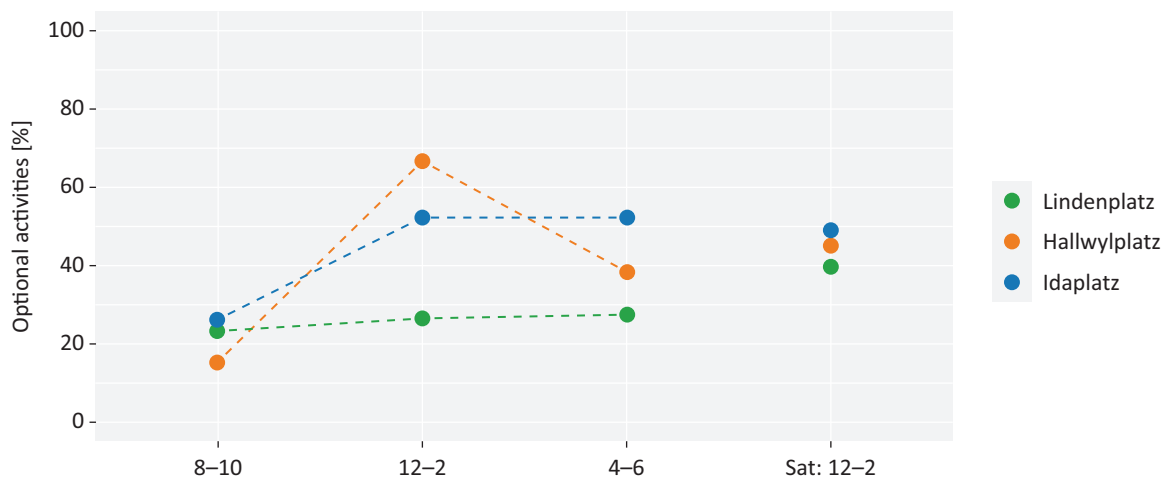
which involve spending more time in the squares, being with friends or family and consuming takeaway (or food/drinks brought from home) or eating/drinking in one of the cafés/restaurants are the most frequently mentioned. Consuming takeaway or food from home is the second most common activity in Hallwylplatz, where at noon, staff from nearby offices make use of the seating affordances to eat their lunch. This use pattern generated by a relatively high proportion of jobs in the neighbourhood of Hallwylplatz is also reflected in the proportion of people carrying out optional activities (peak at lunchtime; see Figure 5).

In general, the proportion of people carrying out optional activities varies depending on the time of the day and between weekdays and weekends (Figure 5). It differs between the squares, hinting at the different affordances in the squares and the varying responsiveness of the environment: In the case of Lindenplatz, due to its numerous facilities connected to necessary uses (supermarkets, pharmacy, dentist, etc.), a comparatively low seating ratio (Table 2), limited shade and a rather noisy soundscape, a relatively small proportion of people

surveyed there engage in optional activities. The square does have a busy, convivial atmosphere (particularly on market days, see Figure 6), but the everyday use as it was intentionally captured by fieldwork is characterized by a somewhat pragmatic use, mirroring the square’s functional design and furnishing.

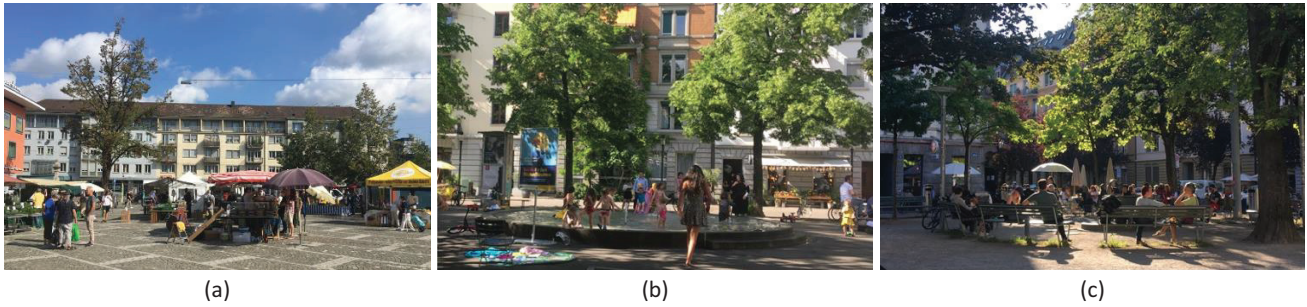
In the two other squares, there are both fewer everyday facilities and more affordances encouraging optional uses. Most notably, there is a higher seating ratio (Table 2). In Hallwylplatz, there are quite a few affordances that encourage children’s play (a shallow fountain, a slide and table tennis; see Figure 6), thus prompting parents and carers to engage in optional activities, too. These affordances are not offered by Idaplatz. However, as it is located in a rather quiet residential area, it is not surprising that the proportion of people engaged in optional activities is highest in Idaplatz compared to the other squares, except for the “lunch peak” in Hallwylplatz.

As sitting is a necessary activity in only certain cases, the proportion of seated people is a simple yet telling indicator of optional activities (Table 2). Consistent with



**Figure 5.** Proportion of people carrying out optional activities.





**Figure 6.** Optional activities. (a) Standing to chat on market day (Lindenplatz); (b) Splashing in the fountain (Hallwylplatz); (c) Sitting to chat and enjoy the sun (Idaplatz).

Figure 5, Hallwylplatz and Idaplatz have a much higher proportion of seated people than Lindenplatz.

This proportion of seated people is in line with the squares’ affordance of seating. The seating ratio is higher in Idaplatz and Hallwylplatz than in Lindenplatz. In Idaplatz, this mainly includes benches (86% of the seating is primary seating, see Figure 6), which contributes to the square’s robustness. In Hallwylplatz, primary seating consists of 39% additional furniture provided by the neighbours, and more than half of the seating opportunities are secondary seating on the edge of the shallow fountain.

The differences in affordances between the squares are also reflected in the time that people spend there. On average, people stay longest in Hallwylplatz (21 minutes) and shortest in Lindenplatz (13 minutes; Idaplatz 17 minutes). As only stationary activities are considered (i.e., excluding those who are passing through), the data is not skewed by a different percentage of passers-by.

There is a significant gender difference in the time people spend in two of the squares. In Lindenplatz, men spend 15 minutes on average, whereas women only spend 11 minutes. At Hallwylplatz, it is women who stay longer than men (24 and 19 minutes, respectively). At Idaplatz, although men tend to spend more time in the square than women, the difference is not significant.

Hallwylplatz is popular with children as a place for playing and splashing. Gendered patterns of use could

therefore simply be the result of different uses of the public squares by parents and carers. Likewise, having more free time (e.g., pensioners) might also explain why some groups spend more time in the squares than others. Since univariate analysis only allows speculation about a potential connection between optional activities, affordances, and individual factors, I have also carried out a multivariate analysis of optional activities.

### 5.2. Which Factors Are Associated With Optional Activities?

The intercept survey dataset provides a combination of individual data on the way people use the public squares, their relationship to the neighbourhood, and sociodemographic characteristics. It is well suited for exploring which individual factors are associated with optional activities and thus a more convivial use of public squares. The first model in Table 3 reports the result of binary logistic regression assessing the effect of the variables in the four groups (square, relationship to neighbourhood, temporal dimension, and sociodemographics) on optional activities. Columns 2–4 show the same models run separately for each square. Due to the smaller sample size similar or smaller effects than in the general model may not be significant in the individual square models. Case-specific significant results are discussed wherever they deviate from the general result.

**Table 2.** Metrics of seating affordances (non-commercial) and the number of minutes spent by square.

	Lindenplatz	Hallwylplatz	Idaplatz
% of people seated (of all people involved in stationary activities)	56	77	72
Seating ratio (cm/3m <sup>2</sup> ) (Bentley et al., 1985: at least 30 cm/3m <sup>2</sup> )	6.3	11.6	8.2
Primary seating (% of all seating)	49	45	86
% of which additional furniture by neighbours	—	39	—
Secondary seating (% of all seating)	51	55	14
Average time spent (minutes)	13	21	17
Women	11	24	16
Men	15	19	19

**Table 3.** Logistic regressions on the propensity to carry out optional activities.

Variable	All (n = 1087)		Lindenplatz (n = 334)		Hallwylplatz (n = 353)		Idaplatz (n = 400)	
	OR <sup>1,2</sup>	SE <sup>2</sup>	OR <sup>1,2</sup>	SE <sup>2</sup>	OR <sup>1,2</sup>	SE <sup>2</sup>	OR <sup>1,2</sup>	SE <sup>2</sup>
<b>Square</b>								
Lindenplatz	—	—						
Hallwylplatz	1.71**	0.189						
Idaplatz	2.24***	0.178						
Familiar stranger (ref: no familiar stranger)	1.79***	0.156	1.70	0.276	1.35	0.321	2.27**	0.259
Neighbourhood (ref: living outside neighbourhood)	0.47***	0.148	0.41**	0.304	0.52*	0.282	0.43***	0.235
<b>Timeslot</b>								
8–10	—	—	—	—	—	—	—	—
12–2	4.71***	0.220	1.76	0.412	15.4***	0.446	4.21***	0.365
4–6	2.86***	0.224	1.55	0.428	4.01**	0.458	3.52***	0.352
Sat: 12–2	3.79***	0.219	2.44*	0.392	6.67***	0.451	3.83***	0.354
Occupation (ref: not (self-)employed)	1.86**	0.210	1.15	0.404	2.71*	0.416	1.83	0.339
Gender (ref: women)	1.36*	0.138	1.74*	0.269	2.20**	0.274	1.05	0.221
<b>Age</b>								
15–24 years	—	—	—	—	—	—	—	—
25–65 years	0.84	0.310	0.54	0.820	0.28*	0.592	1.93	0.502
older than 65	1.16	0.362	0.77	0.854	0.42	0.737	2.09	0.616
Accompanied by children (ref: no)	1.19	0.221	1.85	0.410	2.81*	0.452	0.61	0.361
Born in Switzerland (ref: yes)	0.85	0.175	0.93	0.347	1.10	0.312	0.75	0.300
Main language: German (ref: yes)	1.12	0.211	1.14	0.404	0.64	0.414	1.49	0.345
<b>Household income</b>								
low (less than 50% of median)	—	—	—	—	—	—	—	—
average (50–150% of median)	1.09	0.274	3.79	0.829	0.52	0.572	1.24	0.400
high (more than 150% of median)	0.74	0.313	5.41	0.904	0.24*	0.648	0.78	0.453
<b>Education</b>								
None/compulsory	—	—	—	—	—	—	—	—
Secondary	0.72	0.367	0.42	0.550	1.21	0.706	0.63	0.813
Tertiary	0.62	0.370	0.33*	0.556	0.91	0.699	0.63	0.812

Notes: <sup>1</sup> \* $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; <sup>2</sup> OR = Odds Ratio, SE = Standard Error. Model fit indicator McFadden R Square: all squares: 0.108, Lindenplatz: 0.076, Hallwylplatz: 0.215, Idaplatz: 0.098.

### 5.2.1. Square

Consistent with Figure 5, people in Hallwylplatz and Idaplatz have a significantly higher propensity to take part in optional activities than people in Lindenplatz. It should be noted that this effect is to be understood as all things being equal. As several other variables are controlled for in the model, the possibility that it is the result of a different sociodemographic composition of the square users can be ruled out.

This result can be attributed to the squares' material base. The affordances in Hallwylplatz and Idaplatz are more accommodating of optional activities than in Lindenplatz. Having a higher seating ratio, the two squares are more robust. Additionally, in Hallwylplatz,

there is plenty of opportunity for personalization, as the movable chairs enable a wide range of seating arrangements for groups of different sizes.

### 5.2.2. Relationship to the Neighbourhood

To model the relationship to the neighbourhood, two variables, familiar stranger and neighbourhood, are included. People who recognized familiar strangers or acquaintances were more likely to be engaged in optional activities than those who did not. The salience of the familiar stranger variable can be attributed to the public familiarity that comes with recognising strangers. As suggested by the literature, familiarity is presumed to increase the feeling of belonging to a neighbourhood

that has been found to be positively associated with recreational use.

People living in the neighbourhood of the squares are less likely to participate in optional activities than people who live further away. This seemingly counter-intuitive result can be explained by the “time in-between” and the methodology. Assuming time in-between is relevant for optional activities (see below), it is plausible that the closer to home these moments of time in-between occur, the more likely they are to be spent at home and not in public space. Also, due to the frequency with which they pass the squares, the people living close to the squares are more likely to have been asked to participate in the survey while in transit than those living further away.

### 5.2.3. Temporal Dimension

To model the temporal dimension of optional activities, the timeslot when people were being surveyed and their occupations are used. The timeslot is the most important variable in the model. Unsurprisingly, the people surveyed at noon, in the late afternoon or on Saturday are significantly more likely to engage in optional activities than participants in the morning. This result applies to all three squares, implying that the rhythm of work drives optional activities regardless of the squares’ affordances. Nevertheless, it should be noted that in Lindenplatz—where, as mentioned, there are fewer affordances for optional activities—the effect is less pronounced. Affordances supporting optional activities, such as in Hallwylplatz and Idaplatz, seem to reinforce the recreational character of lunchtime, late afternoon and weekend hours.

Although occupation is only a crude indicator of time budget, employed people (full-time, part-time or self-employed) presumably have less free time on average than people not in employment (retired, in education, unemployed or engaged in full-time home duties). Yet, unexpectedly, it is those who are employed that are more likely to be engaged in optional activities. When travelling to and from work (plus during lunch breaks) they have more “time in-between,” which connects them to spaces of proximity such as the squares, making it more likely that they will use them for optional activities.

### 5.2.4. Sociodemographics

This last group of variables helps clarify who, from a hyper-diverse population, forms part of the “common-place diversity” (Wessendorf, 2014) of convivial public square use. Are some population groups more likely to do optional activities than others?

All things being equal, men are more likely to take part in optional activities than women. No significant relationship was found for the variables of “age” or “accompanied by children.” Replacing “accompanied by children” with “living in a household with children” led to the same result. It should be noted that men are more

likely to be engaged in optional activities than women, despite there being no major amenities that would suggest a gendered use, as described in the literature (e.g., sports facilities, playgrounds; Bühler et al., 2010; Ganji & Rishbeth, 2020).

No evidence was found for a significant relationship between whether someone was born in Switzerland or speaks German and the propensity to carry out optional activities. It can be inferred that, from those people present, people from a migrant background feel equally entitled to spend leisure time in the squares, a precondition for “thicker” kinds of sociality thus being fulfilled.

The effect of income and education remains unclear, as the effects are not significant in the overall model and are inconsistent in the separate models.

Contrary to the other groups of variables, the sociodemographic group evidences some instances in which there are significant effects in the individual square models despite there being no significant effect in the general model: In Lindenplatz, people with a tertiary degree are significantly less likely to take part in optional activities than people with no formal or compulsory education. One potential explanation for this could be that people with higher status are more likely to perceive a social distance between them and other square users, and therefore feel less inclined to participate in optional activities.

A similar explanation could hold for the significantly lower propensity towards optional activities of people with high incomes in Hallwylplatz. The perceived social distance might not only apply to other square users but also objects (e.g., the sometimes shabby additional furniture in Hallwylplatz). In Hallwylplatz, 25- to 65-year-olds are significantly less likely than 15- to 24-year-olds to participate in optional activities. This could be explained by the relatively low share of young people in the neighbourhood, making it more likely that those who do come to the square do so specifically for optional activities. In the same square, there is a significant relationship between being accompanied by children and participation in optional activities. It could be speculated that the shallow fountain’s attractiveness accounts for the positive effect of being accompanied by children on the likelihood to carry out optional activities.

In Idaplatz, there are no significant relationships in the individual model that cannot be found in the general model.

It is important to note that these findings apply to people who use the squares and not necessarily to those who do not choose to be present in the first place. As affordances structure the set of possible activities, people might fall back on alternative public places for more culturally specific activities (e.g., spaces where larger groups can be accommodated).

Overall, for those who are present, the squares seem to be equally conducive to optional activities for a diverse range of population groups, the only significant difference being that for men, the likelihood of participating

in optional activities is higher than for women. Of all the other groups included in the analysis, there does not seem to be one that is particularly likely or unlikely to do optional activities in the three squares. There are indications, but no conclusive evidence, that people of higher social status are less likely to participate in optional activities.

## 6. Conclusion

This article defines conviviality in public squares as the co-presence of a hyper-diverse urban population, extended by optional activities. It explores the factors which encourage people to use the Lindenplatz, Hallwylplatz, and Idaplatz public squares in Zurich in a convivial way. It thus sheds light on what contributes to lively public squares and hence more robust social infrastructure (Bentley et al., 1985; Layton & Latham, 2022).

There are considerable differences in the proportion of optional activities carried out in the three squares, corroborating previous research that has found design and affordances such as seating opportunities to be important factors in shaping public space use and encouraging optional activities (Gehl, 2011; Lanng & Jensen, 2022; Rishbeth & Rogaly, 2018). This article contributes to our understanding of the role of affordances by providing evidence that more convivial use results not only from attracting a different crowd (e.g., people with more free time) but that the effect persists even when controlling for variables such as gender, cultural background, or socio-economic status which previous research has shown to have an influence on recreational use (Bergefurt et al., 2019; Ganji & Rishbeth, 2020; Huang & Napawan, 2021).

Regression analysis also reveals the importance of the temporal dimension of the activities and people's relationship to the neighbourhood, suggesting self-reinforcing connections between the time in-between periods occupied by a professional activity (time may be spent in public squares on the way to and from work and during lunch breaks), the co-presence of people and the public familiarity resulting from this temporal overlap (Blokland & Nast, 2014). Living in the neighbourhood, i.e., in proximity to the square, however, seems to lower the likelihood of participating in optional activities. This link could benefit from further research.

The finding that men are more likely to carry out optional activities than women concurs with the existing literature on the gendered use of public space (Huang & Napawan, 2021), with the added benefit of clarifying that it is not (only) an effect of being attracted or not to certain spaces, nor of having childcare duties. As the survey took place during the daytime, we can also rule out the hypothesis that this result stems from women's greater or more prevalent safety concerns in the evening and at night. Besides potential safety issues during the day, the result may also be explained by a gendered appropriation and interpretation of the square's social

space. Even though the actual affordances are the same for all, women might perceive their attractions and limitations differently. The finding might also reflect overarching social labour and care work structures, which are difficult to unpack through a quantitative analysis of behaviours.

The quantitative approach used here also takes a narrow view of conviviality in assuming that carrying out optional activities contributes to a convivial space. This is a crude indicator of conviviality. A different methodology would be necessary to study how a convivial "rubbing along" (Wise & Noble, 2016, p. 425) is practised and experienced. However, the quantitative approach allows us to explore which factors affect an individual's likelihood of participating in optional activities, and to decouple individual and environmental factors.

There are also other limitations to this study. Firstly, the data only covers limited hours of the day. No surveys were conducted in the evening/at night. Secondly, the model might be underspecified, meaning important variables are missing (e.g., time budget, preferences for certain environments). Thirdly, the data was collected during the Covid-19 pandemic. As there were no health measures in force regarding behaviour in outdoor spaces, it can be assumed that the data was not greatly affected. However, there might be certain groups whose use of public squares was modified (e.g., at-risk individuals, or people working from home).

Notwithstanding these limitations, this article shows that mobilizing the concept of hyper-diversity contributes to our understanding of conviviality. Although the way the cultural background is measured here might mask certain effects, it is interesting to note that the people who use the squares in fact tend to extend their co-presence by engaging in optional activities regardless of their cultural background, age, or socio-economic status. Instead, gender, relationship to the neighbourhood, and temporal dimensions appear to be more important factors in convivial use, in combination with the affordances the environment provides.

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## Conflict of Interests

The author declares no conflict of interests.

## Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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