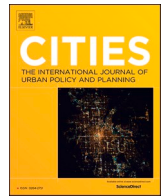




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# Urban diversity and epidemic resilience: The case of the COVID-19

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## ABSTRACT

The spread of the coronavirus pandemic offers a unique opportunity to improve our understanding of the role of urban planning strategies in the resilience of urban communities confronting a pandemic. This study examines the relationship between urban diversity and epidemiological resilience by empirically assessing the relation between the level of neighborhood homogeneity and the probability of being infected by the coronavirus. We focus on the ultra-Orthodox Jewish community in Israel, a relatively closed community that was disproportionately and severely affected by the pandemic. The findings indicate a monotonic but nonlinear relationship between the level of ultra-Orthodox prevalence in a neighborhood and a resident's probability of contracting COVID-19. As the fraction of ultra-Orthodox individuals in the neighborhood decreases, the fraction of infected population decreases significantly and more strongly than can be explained without recourse to urban diversity considerations. This relationship is found to be significant and strong, even when other variables are accounted for that had hitherto been perceived as central to coronavirus distribution, such as housing density, socioeconomic level of the neighborhood, and number of people per household. The findings are important and relevant to many societies around the globe in which a variety of populations have a separatist lifestyle.

## 1. Introduction

In recent months the world has experienced a severe pandemic caused by the novel coronavirus. According to the World Health Organization, as of July 13, 2021, more than 186 million people had been diagnosed with COVID-19, and more than 4 million had died, in 216 countries (WHO, 2021). While morbidity rates vary both across and within countries, some of the hardest hit are closed, homogeneous communities, of which the ultra-Orthodox Jewish communities in Israel, New York, and other countries offer a stark example (Gilman, 2021; Halbfinger & Kershner, 2020; Heilman, 2020; Holmes, 2020; Schattner & Klepfish, 2020; Stack, 2020).

The global spread of the Covid-19 pandemic has spurred a large body of research aimed at understanding the factors that influence variation in infection and mortality rates across countries, communities and individuals. Much of this research has focused on demographic (Venkatesan, 2020; Volk et al., 2021; Vanhamel et al., 2021), economic (Baldwin & Weder di Mauro, 2012; Nicola et al., 2020; Omer et al., 2020; Saban et al., 2021), socioeconomic and ethnic (Saban et al., 2021), health (Peters et al., 2020; Pirutinsky et al., 2020; Wang & Tang, 2020) and environmental circumstances (Eroğlu, 2021; Gautam, 2020; Gautam & Trivedi, 2020). However relatively little attention has been

given to the impact of urban planning (Barak et al., 2021; Hamidi et al., 2020; Lai, Webster, Kumari, & Sarkar, 2020; Megahed & Ghoneim, 2020), and most existing studies are focused on urban population density. Whether urban planning can affect neighborhood resilience and protect public health in the face of a global pandemic is an important, but little studied question from both policy-related and scholarly perspectives.

Whether the spread of the pandemic is attributable to specific communities and why, and whether the coronavirus is reshaping American and European cities has been extensively discussed in the media (Bogost, 2020; Brandariz & Fernández-Bessa, 2021; Florida, 2020; Sokol, 2020; Stack, 2020). However, as far as we are aware, no empirical research has thus far focused on this question at the neighborhood level.

In contemporary urban studies, urban diversity is considered a planning strategy that helps produce better, more just, and more livable cities. The premise of this approach is that mixing diverse populations with different backgrounds and income levels and mixing land use and various forms of housing can produce neighborhoods whose residents are better off both economically and socially (Fainstein, 2016; Grant, 2002; Hananel, 2017; Talen, 2005). Consequently, many scholars since the 1960s have supported urban-redevelopment strategies that stimulate physical and social heterogeneity (Fainstein, 2005a; Talen, 2012;

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Shamai & Hananel, 2021).

This study examines the relationship between urban diversity and epidemiological resilience by empirically assessing the relation between the level of neighborhood homogeneity and the probability of being infected by the coronavirus. We focus on the homogeneity of the neighborhood in terms of populations that are relatively closed and isolated, and which have been widely blamed for the spread of the pandemic. Our case study is concerned with the ultra-Orthodox (*haredi* in Hebrew; henceforth, UO) community, a relatively closed community (Malovicki-Yaffe, Solak, et al., 2018; Cahaner & Shilhav, 2012) that was disproportionately and severely affected by the pandemic in both Israel and the United States, especially in its early stages (Baterman, 2020; Halbfinger, 2020; Sales, 2020). In recent years, the UO community has undergone major changes in its degree of closure and isolation. Some members of the community continue to live in closed neighborhoods, while others have moved to more mixed neighborhoods (Alfasi et al., 2013; Malach & Cahaner, 2017). This enables us to examine a wide range of neighborhood homogeneity values, especially as we are able to utilize unique, detailed data spanning all neighborhoods in Israel.

The structure of this paper is as follows: The next section briefly presents the theoretical research framework, namely, the urban diversity approach. The third section introduces the UO community, its unique characteristics, and its spatial dispersal. The fourth section describes the research methodology. The last two sections present the findings and the conclusions of the research and discuss their broader relevance for future decision making.

Our results indicate a monotonic but nonlinear relationship between the level of UO prevalence in a neighborhood and a resident's probability of contracting COVID-19. As the fraction of UO individuals in the neighborhood decreases, the fraction of infected population decreases significantly and more strongly that can be explained without recourse to urban diversity considerations. This relationship is found to be significant and strong, even when other variables are accounted for that had hitherto been perceived as central to coronavirus distribution, such as housing density, socioeconomic level of the neighborhood, and number of people in the household.

Although the findings focus on the UO community in Israel, they are important and relevant at various levels to many societies around the globe in which a variety of populations have a separatist lifestyle. On a practical level, the findings emphasize the central role of urban planning strategies in maintaining public health and their ability to affect the resilience of the public and reduce its likelihood of contracting epidemic diseases.

## 2. Urban diversity

In planning theory, the urban-diversity approach is a reaction to the fundamental zoning approach, which was based on the segregation of homogeneous districts (zones) and created homogeneous concentrations of poverty (Fainstein, 2005b; Talen, 2012; Haramati & Hananel, 2016). The zoning approach coincided with the formerly held belief that neighborhoods that were homogeneous in terms of race, class, and ethnicity—unlike heterogeneous ones—were healthy and stable (Wyly & Hammel, 1999). The urban-diversity approach, in contrast, is based on a mix of people, land uses, and activities, and emphasizes the importance of various types of diversity and heterogeneity in a given urban area for achieving successful urbanism and consequently for having vital and just cities (Fainstein, 2016; Talen, 2012).

Theorists who are proponents of urban diversity argue that it benefits the city's entire population. During the 1960s, while zoning was still the prevailing doctrine, Jane Jacobs (1961: 200–205) called for planning that draws inspiration from “livable” cities, which are defined by high density, multiple interactions between strangers, short streets, and a variety of uses in a given area. It was argued that as a neighborhood fulfills more functions, it becomes more attractive for residents and visitors and brings more economic productivity (Alfasi & Ganan, 2015;

Jacobs, 1961: 200–205). This approach was later supported from an economic perspective, which recognized the connection between diversity and economic growth. Economically diverse areas enjoy the presence of professionals from various backgrounds, which fosters creativity and hence innovation and growth (Florida, 2002: 262).

Socially diverse neighborhoods, which are seen as essential for broader community well-being and for achieving social-equity goals, can be described as having diverse groups from various backgrounds (Talen, 2012; Fainstein, 2010: 69; Jacobs, 1961: 144). Diverse cities facilitate frequent contacts between residents from different social groups, which, according to advocates of urban diversity, ease tensions and suspicion among them, thus encouraging tolerance (Sandercock, 1998; Young, 1990: 239).

Diversity also refers to mixed uses and land-use dispersal within the city or the neighborhood (Fainstein, 2005b). It includes an emphasis on the public sphere: kindergartens, parks, community centers. These public spaces are important meeting places for residents, where they can talk, interact with one another, decide on common issues, and feel that the city is relating to their community needs. This, in turn, helps create a strong civil society that cares and fights for its city (Hananel, 2017; Shamai & Hananel, 2021). Diversity also means having different types of buildings and apartments, with a focus on the effect of these differences on housing prices in the area. Such diversity may help prevent the formation of exclusionary zoning in a city or neighborhood (Hananel, 2014). Scholars link housing mix to social mix because of the influence of housing mix on the ability of diverse populations to reside next to each other (Galster, 2007; Kleinmans, 2004). A mix of old and new housing units was found to enable tenants of various income levels to live side by side, because older units become more available to the less affluent when new units are constructed nearby (Cho & Kim, 2017). Talen (2005) even suggests that ethnic and income mixes in neighborhoods are best accomplished indirectly, through diversity of the built environment. According to Grant (2002), mixed use promises economic vitality, social equity, and environmental quality, but it cannot readily deliver such benefits in a context where cultural and economic forces promote separation of land uses, as it might be in the case of the UO community.

Despite the seeming unanimity of urban theorists on the merits of urban diversity, in recent years there has been a growing opposition that has put a spotlight on some negative social effects of urban diversity (Fainstein, 2005b). Social diversity usually means the integration and assimilation of population from various income level. However, studies show that social mix not always contribute to improving the socioeconomic status of disadvantaged local residents, but also exacerbates economic inequalities, displacement, segregation and isolation. In other cases, disadvantaged tenants are not readily accepted into more affluent communities, and they experience oppression, stigmatization, exclusion, and even hostility (August, 2016; Biddulph, 2011; Ruming et al., 2004; Teernstra, 2015; Ye, 2017).

### 2.1. Urban diversity and resilience

Resilience is defined as “the capacity of a system to absorb disturbance and reorganize, while undergoing change so as to still retain essentially the same function structure, identity and feedbacks” (Walker et al., 2004, p. 6). Originally, the term was used by physical scientists to denote the characteristics of a spring and to describe the stability of materials and their resistance regarding external shocks (Davoudi, 2012). In recent decades, resilience has become an increasingly popular concept and has begun to be used also by social scientists, economists, and urban planners and in relation to government policy and strategies (Fainstein, 2015; Porter & Davoudi, 2012; Wilkinson, 2012).

In urban studies the concept in general is aimed to describe the qualities that help communities and individuals overcome natural crises, such as earthquakes and floods, or sociopolitical crises, such as financial calamities, mass immigration, war, peace agreements, and social

protests (Barrios, 2014; Collier et al., 2013; Davoudi, 2012; Fitzgibbons & Mitchell, 2019; Hananel, 2019; Meerow & Newell, 2016; Simone et al., 2020).

Definitions for urban resilience vary, but all the definitions and approaches, explain Albers and Deppisch (2013), refer to diversity as a key principle for urban and regional resilience. The principle of “diversity”, meaning that a city or a region has a number of functionally different components that exist side by side, help to protect a city or a region system against various threats and to reduce vulnerability (Godschalk, 2003; Wardekker et al., 2010). In this context, diversity refers not only to ecological, but also to social, cultural or economic diversity (Albers & Deppisch, 2013; Kumagai et al., 2010; Wardekker et al., 2010).

At the neighborhood level, studies emphasize the need for diversity, and explore how the lack of diversity (within both neighborhoods and surrounding contexts) affects the neighborhoods' ability to withstand a shock such as the Great Recession (Quigley, Blair, and Davison, 2018). On the other hand, social diversity in the sense of the social mix, physical diversity in the sense of housing forms, and economic diversity in the sense of housing prices contribute to positive outcomes and increased neighborhood resilience (Berkes & Ross, 2013; Leichenko, 2011).

It is often argued that cultural diversity plays a major role in creating mechanisms for innovation, providing new ways to adapt to change, and generating knowledge and institutions to deal with the challenges, opportunities and threats generated by change (UNESCO, 2008). According to Colding and Barthel (2013), the term cultural diversity encompasses a diversity of social relations among people of different ethnic background, age, or gender.

Cultural diversity, Colding and Barthel (2013) claim, appears to promote the ability to build and increase the capacity for learning and adaptation in groups. Defining a common issue that binds together diverse groups and individuals is an essential part in such an approach, e.g. “an activity that is of common interest to the different groups” (Rydin & Pennington, 2000). They also argue that the spatial structure, e.g. a square, facilitating proximity of groups is an essential characteristic for creating multidirectional flows in cities.

The literature review above, refers to cultural diversity and social mix, as one of the key principles of urban resilience, and as the main indicators for examining the level of urban or neighborhood diversity. In this study, we measure social mix (and the level of diversity) according to the share of UO in the neighborhood. The higher the percentage of UO in the neighborhood (or the level of UO homogeneity), the lower its level of urban diversity. Before we dive into the empirical analysis, we briefly introduce the UO community and major demographic and spatial changes it has undergone in recent years.

### 3. The ultra-Orthodox community

The UO community emerged in the 18th century as a response to the Enlightenment, which swept Jews away from the ghettos and religiosity. In an attempt to stop the trend, Jewish communities chose to segregate themselves from the secular world as a strategy against modernization, building “walls of holiness” between themselves and the secular world (Bacon, 1991; Feiner, 2011; Hildesheimer, 1994; Katz, 2000; Schreiber, 2002). The segregated lifestyle encompassed all aspects of life, from the formation of a new ideology to segregated residential neighborhoods, separate school systems, and a specific dress code (Friedman & Shilhav, 1986; Shilhav & Friedman, 1989; Stadler, 2002). In the urban context, the ultra-Orthodox community can be considered as a gated community, in which forming an environment that protects unique cultural values, lifestyles, and social cohesion serves as a major motive for enclosure (Rosen & Razin, 2008).

Communal life is a central characteristic of the UO lifestyle. The community is the basic unit because it correlates with religious needs, many of which are met only in communal life (Friedman, 1991; Stadler, 2002; Stadler et al., 2008). Such needs include prayer quarters, religious facilities such as ritual baths, and shops selling kosher products

(Shoshana, 2014).

There are UO communities all over the world. Currently, this population is estimated to number some 1.8 million people who share many characteristics. Israel has the biggest community, with some 1 million members (CBS, 2019).<sup>1</sup> Next is the United States, with about 500,000, concentrated mainly in the area of New York City and New Jersey (Pew Research Center, 2013; Wisse, 2007; Brown, 2000). The remainder live in England, France, and the rest of Europe and in other small communities globally.

#### 3.1. The UO in Israel: demographic and spatial developments

The UO society established in Israel continued this spirit of isolation—“walls of holiness” between them and the rest of the Israeli population—and is considered the most segregated and religiously stringent of all UO communities (Brown, 2000, 2014).

A key feature of the UO community in Israel is its being a “society of learners”: Most men in the community invest many years studying sacred Jewish texts, and their wives are the main breadwinners. This phenomenon emerged in the late 1970s because of historical and political factors in Israeli society and affected the geographical boundaries of the community, leading to a unique social and spatial structure. Because UO men do not leave their neighborhoods, where they have their study centers and community facilities, they could stay isolated within the “walls of holiness” (Malovicki-Yaffe, McDonald, et al., 2018; Malovicki-Yaffe, 2020; Stadler, 2009).

Until the mid-1980s, the geographical area of the UO community in Israel was known as the “Haredi Triangle,” referring to an area encompassing Jerusalem, Bnei Brak, and Ashdod, three main cities in central Israel. In those cities, the UO were segregated in well-defined neighborhoods. Most of those neighborhoods were established on the margins of the cities and were designed for the UO only (Cahaner & Shilhav, 2012; Zicherman, 2016).

In the beginning of the 1990s, demographic growth and a housing shortage led to significant spatial changes. For the first time, new municipalities earmarked for the UO community were established outside the Haredi Triangle.<sup>2</sup> As the demographic needs increased, new homogeneous UO neighborhoods were established within existing localities (Elizur & Malkin, 2014; Keren-Kratz, 2016).<sup>3</sup> Since the beginning of the new millennium these trends have intensified significantly. The combination of internal changes and a high population growth rate (4% annually compared to 1.9% for the general Israeli population; CBS, 2018a) challenges the UO community's ability to remain isolated. As a result, UO families, for the first time, have moved into secular neighborhoods in heterogeneous towns. Thus, the UO community is undergoing a transition from being a small, segregated, and homogeneous community to being a substantial minority with an increasing and more powerful presence in Israeli politics and media, and it is developing internal variations (Keren-Kratz, 2016; Rebhun et al., 2009).

<sup>1</sup> Of Israel's UO population, 31% live in the Jerusalem District, especially in the cities of Jerusalem and Beit Shemesh; 13% live in the Judea and Samaria District, mainly in the two UO municipalities Beitar Illit and Modi'in Illit; 19% live in the Tel Aviv District, most of them in the city of Bnei Brak; 16% live in the Central District, most of them in two UO municipalities, Elad and Kfar Chabad, and also in the city of Petah Tikva; 12% live in the Southern District, most of them in the cities of Kiryat Malachi, Kiryat Gat, Ashdod, and Ofakim; 5% live in the Northern District; and 4% live in Haifa District, most of them in the city of Haifa (Regev, 2019).

<sup>2</sup> Examples include two small municipalities, Beitar Illit and Modi'in Illit, established in the West Bank, near Jerusalem; Kiryat Ye'arim, a municipality in the Jerusalem District; and Elad, a city in the Central District.

<sup>3</sup> Such was the case of Ramat Beit Shemesh, a neighborhood in Beit Shemesh municipality (near Jerusalem), where the UO presence has changed the population dramatically: It now constitutes the majority, despite living in a segregated area.

Gradually, lifestyles and values of the modern-Western world are seeping into the UO population, creating diverse UO communities with different levels of modernity. New and different streams within the UO population—known collectively as Modern ultra-Orthodoxy (*haredim hadashim* in Hebrew)—are fracturing the totality of the “society of learners.” They are leading to the emergence, for the first time, of a UO middle class, a fast-developing subgroup within Israeli UO (Cahaner & Mansfeld, 2012; Kalagy & Braun-Lewensohn, 2019; Malach & Cahaner, 2017).

These contemporary developments have changed the traditional dispersal of the UO community within Israel and are pushing even mainstream UO families to find housing solutions outside the typical UO closed neighborhoods. Although some of those who have moved into secular neighborhoods in heterogeneous towns are Modern UO families that are more liberal and willing to integrate into moderate neighborhoods, the majority of those moving to those neighborhoods are more traditional UO, tempted by relatively low housing prices. Typically, they have moved to older parts of heterogeneous cities, where there form deprived communities with cheaper housing (Malach & Cahaner, 2017; Regev, 2019). Often, the UO lifestyle leads to friction and conflict with the local residents, who wish to preserve the secular character of their “gentrified” neighborhoods; in many places it has led to the exodus of the secular population from the neighborhood. (Cahaner & Shilhav, 2012; Mansfeld & Cahaner, 2013; Zicherman, 2016).<sup>4</sup>

### 3.2. The ultra-Orthodox community and COVID-19

The COVID-19 outbreak in Israel occurred when relations between secular and UO Israelis were already strained (Friedman, 2020). When a general lockdown was declared on March 16, the leaders of the UO community responded with suspicion and refused to cooperate (Malchi et al., 2020; Kingsley, 2021). The traditional OU lifestyle involves high levels of daily interaction between community members, such as prayer in a quorum of ten men, thrice a day, and ritual bathing. There was particularly sensitivity with regard to educational institutions, as Torah study is considered an essential religious activity, and any attempt to interrupt or interfere with the education of the community's children and youth is viewed as an attack on its “holy of holies.” Consequently, some leading rabbis initially opposed the instructions to close schools and Torah study halls, and instructed their followers to maintain group study and prayer. Overall, the public health restrictions were seen as unnecessary and as a continuation of the state's supposed religious discrimination and harassment vis-à-vis the UO community (Malach & Friedman, 2020; Stern, 2020).

However, rates of infection and morbidity rose rapidly within the community, and 42% of all COVID cases diagnosed in Israel in the first wave of the outbreak of the epidemic were in the UO community. By October the rate rose to 50% of all cases in Israel while ultra-Orthodox society forms only 12.5% of Israeli citizens. Moreover, 1 in 73 UO over the age of 65 has died during the outbreak. This is more than four times the number in the same cohort of the general population (Hanau, 2020; Schwartz & Lieber, 2021).

In order to stop the spread of infection the Israeli government imposed strict quarantine on some UO homogeneous neighborhoods as they were identified as epicenters of the outbreak. The army was called in to enforce curfews and to distribute food and other essentials to residents of Bnei Brak, a major UO city, in which as many as 38% of the 200,000 residents were infected. The town was declared a “restricted zone.” (Holmes, 2020; Saban et al., 2021; Guttentag, 2020).

The high mortality rates were not unique to the Israeli UO community. Other UO communities around the world display similarly high

rates of infection. The UO community accounted for 30% of all cases in New York city (Nir & Otterman, 2020) and the UO community in London displayed infection rates of 64%, nine times higher than the UK average of 7% (Burgess, 2021; Gilman, 2021). Behavior such as ignoring mask mandates and social distancing requirements, and continuing to attend synagogues, Yeshivot (houses of study) and even mass funerals and weddings (Hanau, 2020; Kingsley, 2021) were common across UO communities around the world. The autonomy and the insularity of UO neighborhoods allowed the communities to do as they pleased and ignore government regulation.

This paper seeks to examine the relations between the neighborhoods' diversity, in sense of the level of the neighborhood homogeneity/heterogeneity, and the probability to be infected with COVID-19. The paper asks whether people in heterogeneous environment may act differently, and in the case of global pandemic, such as COVID-19, if diversity would increase neighborhood resilience. As discussed above, cultural diversity provides new ways to adapt to change and promote learning and adaptation in groups (Colding & Barthel, 2013; UNESCO, 2008).

## 4. Methodology

To empirically examine the relationship between the level of neighborhood diversity (i.e. share of UO in the neighborhood) and its infection rates, we designed a multistage comprehensive methodology that combines descriptive statistics and regression analysis.

### 4.1. Data

The analysis is based on two data sets. The first is the Ministry of Health data on the number of confirmed Coronavirus cases by neighborhood (published on May 5th, 2020).<sup>5</sup> A total of 14,944 individuals were diagnosed in Israel by that date. The second was developed by *Points Location Intelligence Ltd* (henceforth, *Points*), and combines social, economic and demographic attributes of each neighborhood in the country (see below for detail) and homogeneity ranks for several population groups, including Ultra-orthodox Jews, Non-ultra-orthodox religious Jews, and Arabs. The homogeneity ranks reflect the shares of the given population group in the neighborhood's overall population, and hence refers to the degree of the neighborhood's social mix and diversity. The rank is estimated on the basis of diverse sources that include continuous fieldwork by *Points*, media publications, election vote data and the distribution of religious schools and places of worship (such as synagogues, Torah Schools, and mosques). The ranks comprise categorical variables taking integer values 1–5, with each rank value representing a certain range of population shares in the neighborhood, as indicated in Table 1.<sup>6</sup>

The *Points* data has several advantages over government data

**Table 1**  
Point's neighborhood homogeneity rank index.

Rank	Rank description	% of population group in neighborhood	Mean of population group in neighborhood
1	Hardly present	0%–10%	5%
2	Weak	10%–20%	15%
3	Medium	20%–50%	35%
4	High	50%–70%	60%
5	Very high	70%–100%	85%

<sup>5</sup> In May 5th 2020, ended the general quarantine, which was implemented in Israel since mid-March. In retrospect, it was only the “first wave”, but at that time it seemed like the end of the coronavirus pandemic in Israel.

<sup>6</sup> Points Location Intelligence website <https://points.co.il/en/points-location-intelligence/>.

<sup>4</sup> This has happened throughout the country, in Hatzor Haglilit, Haifa, Petah Tikva, Jerusalem, Ramat Gan, Ashdod, Kiryat Malachi, Ofakim, Lod, and other localities.

provided by the central bureau of statistics (CBS). First, it is regularly updated using statistical and socio-spatial analysis models, and is therefore more up to date (May 2020) than CBS data that is based on the last census, from 2008. Second, *Points* integrates information obtained from the CBS with other sources of socio-economic and demographic data, including consumer data obtained from commercial companies, real estate prices, findings from various publications and additional data collected by *Points* for its customers. For example, it reports a technological index, which captures usage of various digital and web platforms. Third, it includes data on new neighborhoods, which the CBS does not yet have data on. For these reasons, several government ministries, including the Ministry of Health routinely use the *Points* data.

After merging ministry of health and *Points* data at the neighborhood level,<sup>7</sup> the final dataset used in this research consists of  $n = 2383$  observations (neighborhoods) and includes the following variables: The municipality, the region, the number of confirmed coronavirus cases (by May 5th), the size and distribution of the population by age and gender, the household density, the average household size, the socio-economic rank, a technological rank, and a homogeneity rank for each population group (ranging from 1 to 5).<sup>8</sup>

#### 4.2. Research stages

First, we examined the relationship between the number of confirmed cases in a neighborhood and its UOR rank (UOR), the non-ultra-orthodox religious Jews rank (RJR) and the Arab rank (AR) through a descriptive analysis. As we will see below, only the UOR displayed a strong relation with the case count.

We then conducted a regression analysis at the neighborhood level, in which the outcome variable is a measure of the prevalence of confirmed cases in the neighborhood (either the infection rate or the case count), and the key explanatory variable is the neighborhood's UOR (Appendix. Summary statistics). We make no assumption on the form of the relation between the UOR and the prevalence of confirmed cases, e.g. that it is linear. Rather, we estimate a flexible non-parametric regression which includes five binary variables indicating whether the neighborhood belongs to the five categories of the UOR. Formally, we estimated the regression:

$$UOR_j = \sum_k a_k R_{j,k} + b X_j + e_j$$

where the index  $j$  signifies a neighborhood and the sum runs over the index  $k = 1, 2, 3, 4, 5$  which signifies the UOR categories. The variables  $R_{j,k}$  are binary indicators (taking the values of 0/1) of whether a particular neighborhood  $j$  belongs to UOR rank  $k$ . The coefficients to be estimated,  $a_k$ , reflect the average rate of infection (to be defined below) in the neighborhoods belonging to UOR category  $k$ . Estimating all five coefficients allows us to map the shape of the relation between UOR and prevalence flexibly without making any a-priori assumptions about its form.

The regression also includes control variables  $X$ , described below. The error terms are denoted by  $e_j$ . Rather than assuming that the error terms are independent, we conservatively allow for the possibility that error terms representing neighborhoods within the same municipality are correlated. This should have the effect of increasing the standard errors of our estimates, making it "harder" to obtain statistically significant results.

<sup>7</sup> In the Ministry of Health the field is called "neighborhood name", while in the *Points* dataset, the field is called "EZ\_NAME".

<sup>8</sup> A few neighborhoods were grouped by ministry of Health into aggregated observations (apparently, due to medical secrecy reasons, since separately those neighborhoods had a small coronavirus cases). For these observations, *Points* data was also aggregated using the comprising neighborhoods' populations as weights.

We estimate two types of regressions. In the first, the outcome variable is the rate of infection, defined as the number of confirmed cases in a neighborhood per 100 residents (i.e. in percent). We estimate this relation through an OLS linear regression. Since the actual number of cases in a neighborhood is a count variable with frequent zero values, we also estimate a more appropriate Poisson regression model in order to ensure our results are insensitive to the model specification. In this model, the outcome variable is the actual number of confirmed cases and the explanatory variables are the same as above. A Poisson regression assumes that the number of cases in a neighborhood follows a Poisson distribution with a mean value whose logarithm depends linearly on the explanatory variables.

If significant correlations are found between the UOR and the infection rate, it is of interest to assess which attributes of the UO population might be responsible for the association. We examine this question in two ways. First, we add the RJR and the AR of the neighborhood to the regression as additional explanatory variables. We then compare the strength of the relation between the prevalence of infection and these other rankings (i.e. their regression coefficients) to that of the UOR. To the extent that the relation between the infection prevalence and the UOR is driven by attributes shared by the UO or RJ communities (such as Jewish religious lifestyles) or between the UO or Arab communities (such as relative social isolation and mistrust of the government), one would expect the coefficients of the corresponding ranks to be of similar magnitude.

The second approach to this question is to include additional variables in the regression that might directly capture some of the attributes potentially driving the association between the UOR and the infection rate. For example, one might hypothesize that UO population is more likely to be infected because of its high density. If this were the case, controlling for the population density in the regression should reduce the strength of the association between UOR and the infection prevalence, i.e. lower the magnitude of the coefficients  $a_k$ . We therefore also estimate regressions in which we progressively add additional control variables representing potential attributes of the UO society that may drive infection. These include the socio-economic rank of the neighborhood, its density (number of households per unit area<sup>9</sup>), the average household size, the technological index, and the fraction of the population which is above the age of 15.

#### 4.3. Research obstacles and challenges

Our empirical approach does not allow us to identify the causal impact of UOR on Covid-19 infection, but rather the correlation between these two variables. To the extent that a significant correlation exists between these two variables that is robust to the inclusion of other correlates of UOR in the model, we interpret such a finding as suggestive that certain aspects of UO life cause Covid-19 infection to increase, but we remain aware of falling short of being able to conclusively prove the association is causal.

## 5. Results

### 5.1. Descriptive statistics

Our data covers a total population of 9,123,496, residing in 2383 neighborhoods. Table 2 presents the distribution of neighborhoods and people in Israel by the three neighborhood homogeneity ranks: the UO rank (UOR), the non-ultra-orthodox religious Jews rank (RJR) and the Arab rank (AR).

Next, in Fig. 2, we compare the distribution of Israel's population and its total confirmed case count by each of the three neighborhood

<sup>9</sup> Dunam is the unit of area measurement used in Israel. 1 Dunam = 0.25 Acre.

**Table 2**  
Distribution of neighborhoods and population by neighborhood homogeneity ranks.

	UOR		RJR		AR	
	# of neighborhoods	Population	# of neighborhoods	Population	# of neighborhoods	Population
Hardly present	1921 (80.61%)	6,766,441 (74.17%)	1822 (76.46%)	7,567,825 (82.95%)	2130 (89.38%)	7,055,786 (77.34%)
Low	285 (11.96%)	1,138,931 (12.48%)	244 (10.24%)	808,757 (8.86%)	27 (1.13%)	99,159 (1.09%)
Medium	51 (2.14%)	289,063 (3.17%)	98 (4.11%)	381,127 (4.18%)	25 (1.05%)	73,014 (0.80%)
High	30 (1.26%)	161,361 (1.77%)	41 (1.72%)	134,549 (1.47%)	11 (0.46%)	41,061 (0.45%)
Very high	96 (4.03%)	767,700 (8.41%)	178 (7.74%)	231,238 (2.57%)	190 (0.46%)	1,854,476 (20.33%)
Total	2383	9,123,496	2383	9,123,496	2383	9,123,496

homogeneity ranks (separately for each rank).

The plots clearly show that the relationship between the case count and the homogeneity ranks significantly different across the three types of populations. While there is a clear monotonic increasing relation between the rate of infection and the UOR, no such relation is observed for neither the AR or RJR. The RJR does not seem to have any effect on the rate of infection, and the relation between the AR and the infection rate is decreasing, if anything (Fig. 1). These findings are surprising, since both the JR and Arab populations share important characteristics with the UO population that could be driving high infection rates, namely elements of the Jewish religious lifestyle, and the relative social isolation.

A similar pattern is revealed by plotting the relation between the rate of infection, defined as the number of confirmed cases in each neighborhood divided by the neighborhood's population, and the actual shares of each type of group (UO, non-ultra-orthodox religious Jews, and Arab) in the population of each neighborhood, which we take as the mid point of the population share interval representing each rank (reported in Table 2).

Importantly, this plot also shows that the increasing relationship between the share of UO in the neighborhood and the infection rate is not linear, but convex, meaning that the rate of increase in the infection rate is itself increasing with the fraction of UO populations.

To see the significance of this, consider a simple model in which UO and non-UO individuals have constant probabilities of infection denoted by  $p_{UO}$  and  $p_{NUO}$  that are independent of the composition of the neighborhood. One would then expect the rate of infection in a neighborhood to be  $r \cdot p_{UO} + (1-r) \cdot p_{NUO}$  where  $r$  is the share of UO in the neighborhood. This would imply a linear relation between the infection rate in the neighborhood and the share of UO. A convex non-linear relation therefore provides evidence against the hypothesis that the probability of infection for an UO individual is independent of the share of UO in the neighborhood, but rather that the probability of an UO individual becoming infected decreases significantly the more heterogeneous the neighborhood is. In other words, it suggests that UO who live in heterogeneous neighborhoods are less likely to be infected.

To examine the evidence for this more carefully, in Fig. 3, we again plot the average infection rates (black markers) in each UOR value against the UO share in the population (horizontal axis), but this time add their 95% confidence intervals (dotted black lines). We also plot (red triangles) the change from in the infection rate from each UOR category to the next, normalized for ease of visualization in units of 10% of the share of UO in the neighborhood population, which we denote by  $D_i$ . For example, the change in infection rates from UOR 4 to 5 is  $0.82 - 0.45 = 0.37$ , and occurs over a change in the UO from 60% to 85%, so the change per 10% is  $D_5 = 0.37 / 2.5 = 0.14$ .

If the probability of infection of UO were constant, one would expect  $D_2 = D_3 = D_4 = D_5$ . However, the plot suggests that the magnitude of  $D_i$  in fact rises with the share of the orthodox population. Indeed, statistical  $t$ -tests reject equality of many of these coefficients, including that  $D_5 = D_3$  ( $p < 0.01$ ) or that  $D_5 = D_2$  ( $p < 0.01$ ), as well as that  $D_4 = D_2$  ( $p = 0.08$ ), and are close to reject that  $D_5 = D_4$  ( $p = 0.15$ ). This provides evidence against the hypothesis that the probability of infection for an UO individual is independent of the share of UO in the neighborhood, as

discussed above.

## 5.2. Regression analysis

In order to more carefully estimate the association between the UOR and the infection rate, we now turn to a regression analysis in which the outcome variable is a measure of the infection prevalence. We estimate two types of regression models: in the first, the outcome variable is the case count in a given neighborhood, and we estimate a Poisson regression. In the second, the outcome variable is the infection rate, and we estimate an OLS regression.

### 5.2.1. Poisson model

In Table 3, we report estimations of Poisson regressions in which the outcome variable is the case count in a given neighborhood. To begin with, for brevity, we assume a linear relation between the UOR and the logarithm of the case count, and later relax this assumption. The table reports the incidence rate ratios, which can be interpreted as the factor by which the average case count is estimated to increase per one unit change in each of the explanatory variables.<sup>10</sup>

In the first column of Table 3, we report estimations of a basic model in which the only explanatory variables are the UOR and the population of the neighborhood (in thousands). The UOR is found to have a large and statistically significant effect on the case count: a one unit increase in the UOR is associated with about a doubling of the case count.

In subsequent columns of Table 3, we add additional controls to the regression in order to test whether the association between UOR and the case count is driven by particular characteristics of the orthodox community. First, we control for the RJR and AR. The RJR captures the prevalence of the modern orthodox population in the neighborhood, who share similar religious practices, such as praying in groups several times a day. The Arab rank reflects the prevalence of Arab population in the neighborhood, which is often compared to the orthodox community in terms of social isolation and socio-economic situation. Adding these controls does not materially affect the estimated association between the UOR and the case count. The estimated associations between the case count and the RJR is much smaller in magnitude and is not statistically significant. The AR is, in fact, negatively associated with the case count, with a one unit increase in the AR associated with an about 11% decline in the case count ( $p = 0.09$ ). This suggests that neither religious practices nor social isolation are likely to be driving the association between the UOR and infection prevalence.

Adding a control for the socio-economic rank of the neighborhood (Column 3) does not have much of an effect the coefficient of the UOR, suggesting that the association between UOR and infection rates is also not driven by socio-economic conditions. Interestingly, the relation with the socio-economic rank is positive ( $p = 0.06$ ). The negative coefficient of the AR becomes smaller and insignificant, suggesting it was driven by socio-economic factors.

In Column 4, we add controls for two components of overall population density: the neighborhood density, and the mean size of the

<sup>10</sup> Stars indicate significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

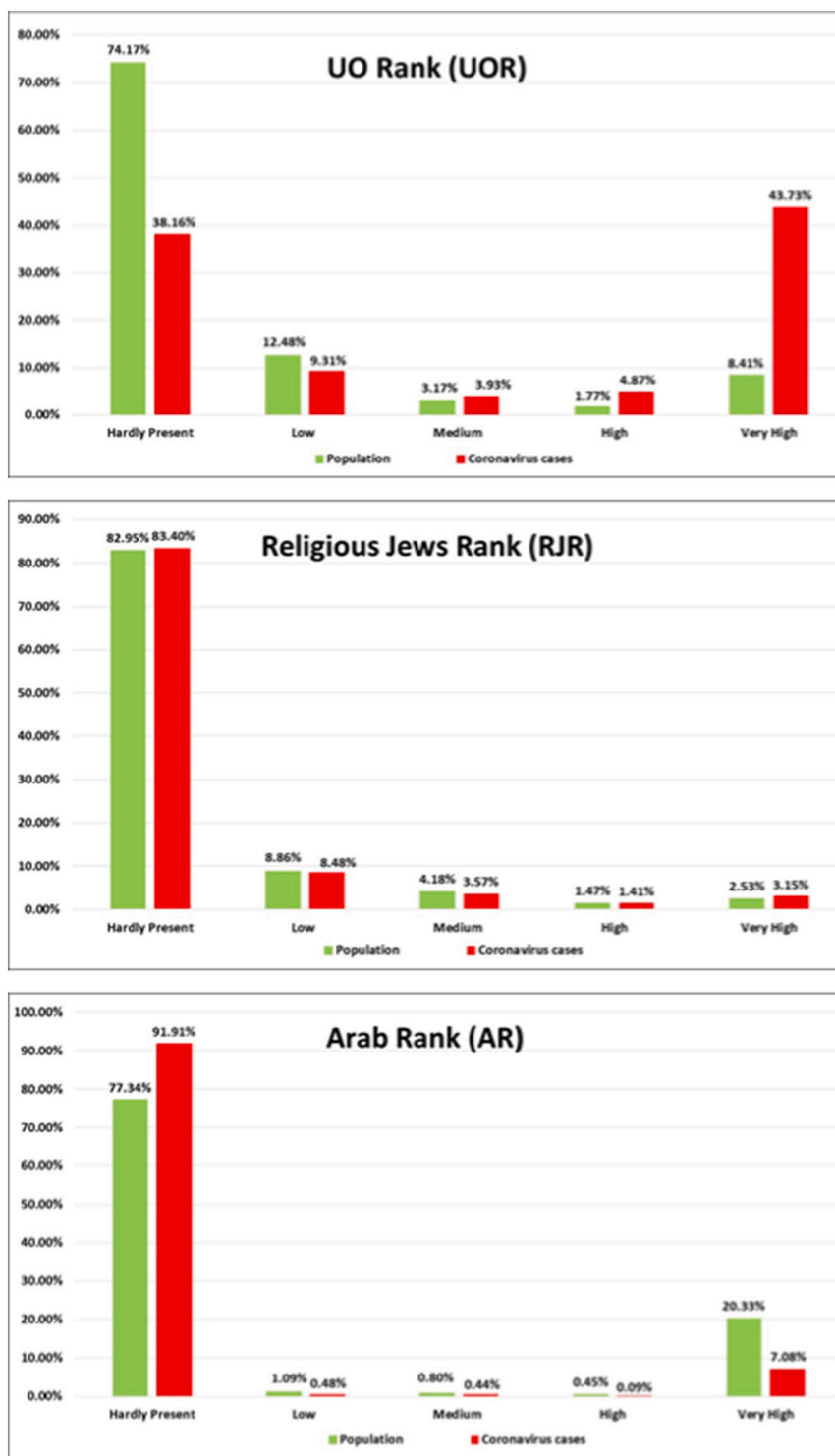


Fig. 1. Distribution of the Israeli population by neighborhood homogeneity ranks, and number of infection with coronavirus.

household, both of which are high in orthodox communities and could potentially be increasing infection rates. While we find a positive and significant association between the case count and both indicators, as expected, the coefficient for UOR is slightly smaller, but remains large and significant, suggesting the association between the UOR and the case count is not driven by the density of the UO population.

In Column 5 we also control for technological literacy, finding an insignificant association on case count and little effect on the coefficient of interest. Finally, in Column 6 we control for the age composition of

the population (the fraction of the population above the age of 15) to account for the possibility that the younger profile of the orthodox population might be somehow increasing infection rates. The results suggest that older populations display higher case counts, but the coefficient of the UOR is not significantly changed, suggesting the association between the UOR and the case count is also not driven by its age composition.

The regression estimates reported above assumed a linear relation between the UOR and the case count. We now relax these assumptions



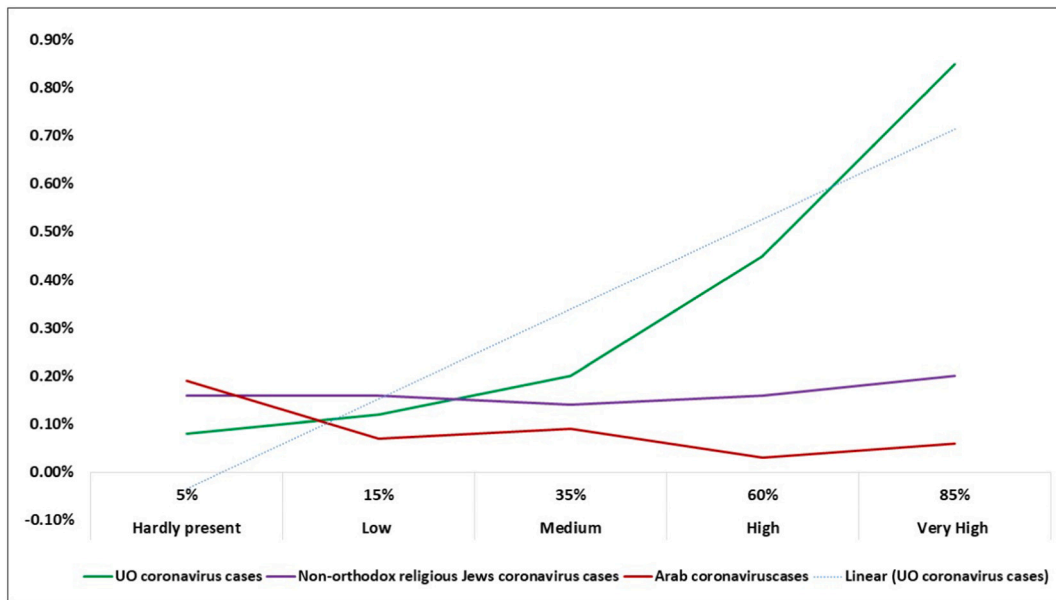


Fig. 2. The relations between coronavirus cases and neighborhood homogeneity rank.

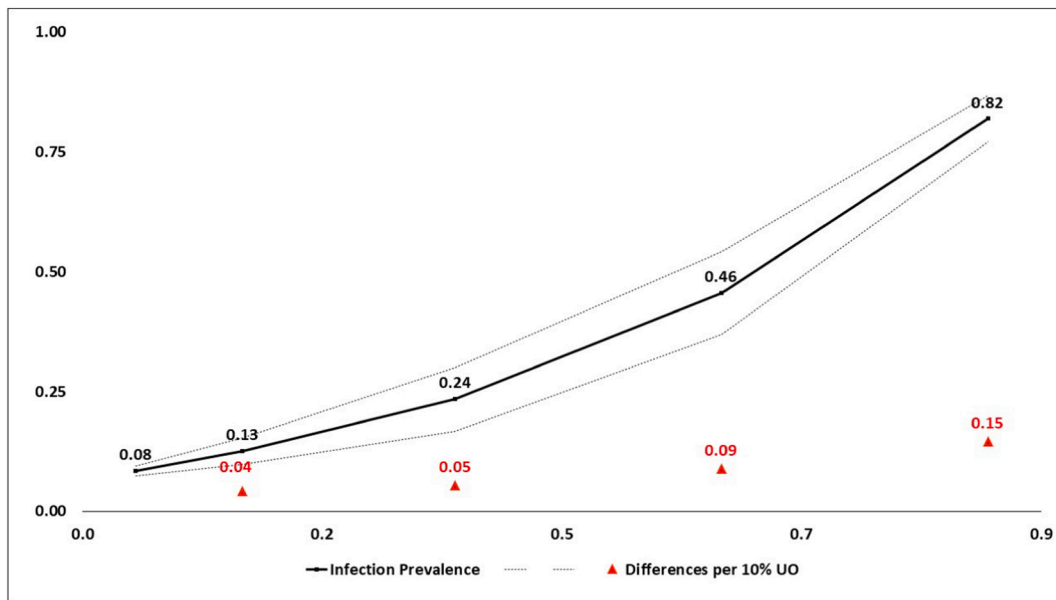


Fig. 3. The Relations between the Infection Rate and UO population shares.

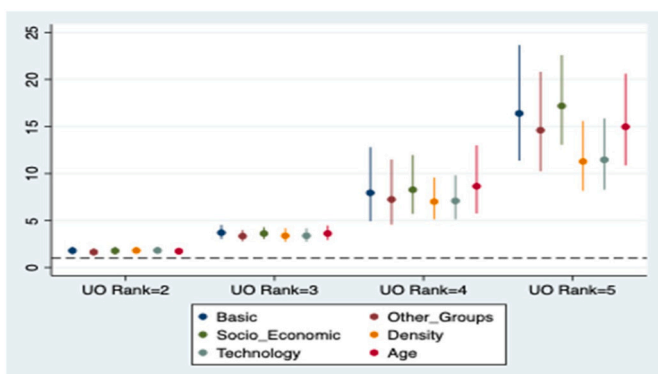


Fig. 4. Non-parametric relationship between UOR and case counts

and estimate non-parametric associations which make no assumptions about the functional form. In Fig. 4, we plot the estimated coefficients of UOR categories 2–5, which represent the factor by which case count is estimated to increase relative to neighborhoods with UOR = 1, along with 95% confidence intervals. The coefficients are plotted in different color for each of the models estimated in Columns 1–5 of Table 4 (labelled basic, other groups, socio-economic, density, technology, age, respectively).

The results indicate a clear rise in case count with the UOR. All models yield highly similar estimated coefficients, similarly to what was found in the linear model and reported in Table 4. Relative to neighborhoods with UOR = 1, those with UOR = 2 are expected to have an almost double case count; those with UOR = 3, a case count 3–4 times higher; those with UOR = 4, 7–8 times higher; and those with UOR = 5, 10–15 higher. Confidence intervals widen as the UOR goes above 3, likely reflecting the small number of neighborhoods in these categories.

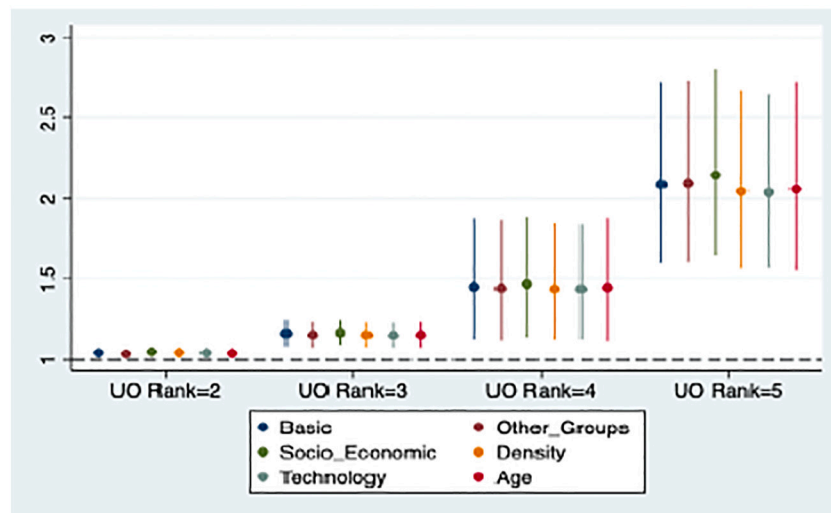


Fig. 5. Non-parametric relationship between UOR and case counts

Table 3  
Poisson model estimations.

	(1)	(2)	(3)	(4)	(5)	(6)
Population (1000)	1.08*** (0.01)	1.08*** (0.01)	1.08*** (0.01)	1.08*** (0.01)	1.08*** (0.01)	1.08*** (0.01)
UO rank	2.02*** (0.10)	1.97*** (0.10)	2.05*** (0.08)	1.84*** (0.08)	1.85*** (0.08)	1.98*** (0.08)
JR rank		1.04 (0.06)	1.05 (0.07)	1.08 (0.06)	1.09 (0.06)	1.13* (0.06)
Arab rank		0.89 (0.06)	0.93 (0.08)	0.96 (0.08)	0.96 (0.07)	0.96 (0.07)
Socio-economic rank			1.06 (0.03)	1.06 (0.03)	1.08 (0.04)	1.07 (0.04)
People per household				1.18*** (0.04)	1.17*** (0.04)	1.29*** (0.03)
Household density (1000)				1.09*** (0.01)	1.09*** (0.01)	1.09*** (0.01)
Technological index					0.98 (0.04)	1.00 (0.04)
Share above age 15						8.62*** (5.17)
Observations	2383	2383	2383	2375	2375	2375

Table 4  
OLS linear.<sup>a</sup>

	(1)	(2)	(3)	(4)	(5)	(6)
UO rank	0.15*** (0.04)	0.15*** (0.04)	0.16*** (0.04)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)
JR rank		0.01 (0.01)	0.02* (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Arab rank		-0.01** (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.01 (0.01)	-0.01 (0.01)
Socio-economic rank			0.01*** (0.00)	0.01*** (0.00)	0.01** (0.00)	0.02** (0.00)
People per household				0.03*** (0.01)	0.04*** (0.01)	0.03*** (0.01)
Household density (1000)				0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Technological index					-0.01 (0.01)	-0.01 (0.01)
Share above age 15						-0.06 (0.07)
Observations	2383	2383	2383	2375	2375	2375

<sup>a</sup> Stars indicate significance levels: \* p<0.05, \*\*p<0.01, \*\*\* p<0.001.

### 5.2.2. OLS model

For completeness, we now present parallel results to those presented in Section 5.2.1 but derived from an OLS regression model in which the outcome variables is the infection rate (the number of cases divided by the total population). All other elements of the model are similar. In Table 4 we report results of OLS regressions in which the relation between the infection rate and the UOR is assumed to be linear. Overall, the pattern of the results is similar. Each increase in the UOR increases the infection rate by about 0.15, independently of the model (i.e. control variables).

Fig. 5 plots non-parametric estimates of the association, similarly to those reported in Fig. 4, this time derived from the OLS model.

## 6. Discussion and conclusions

The spread of the coronavirus pandemic offers a unique opportunity to improve our understanding of the role of urban planning strategies in general, and urban diversity in particular, in the resilience of urban communities confronting a pandemic. To this end we designed a comprehensive multi-stage methodology that analyzes the relationship between the level of neighborhood homogeneity with respect to the UO population (as well as the JR and Arab) population and the probability of being infected by the coronavirus, using detailed data spanning all neighborhoods in Israel.

The research findings indicate a nonlinear relationship between the neighborhood's UOR and the probability of infection. This means that in mixed neighborhoods, as the UO population decreases, the number of people infected by the coronavirus decreases significantly. This relationship was found to be significant and stable, even when we controlled for other variables that are central in coronavirus distribution. Moreover, its nonlinear form indicates diversity itself plays an important role in transmission dynamics.

It was particularly interesting to find that, even when controlling for the density of the neighborhood and for household sizes, the impact of the UOR remains almost as strong and significant. This finding corresponds with the findings of a new study examining the effect of population density and connectivity in American metropolitan areas on the spread of COVID-19, which found that connectivity matters more than density (Hamidi et al., 2020).

The question is, *How can these findings be explained? What is changing in the UO way of life in the transition from homogeneous to heterogeneous neighborhoods that is reducing so significantly the probability of being infected by the coronavirus?* The research findings demonstrate the way in which urban diversity, especially the social mix, affects traditional communities that resist diversity. From the above findings it might seem that the coronavirus targeted the UO community in Israel. However, it is not density, sociodemographic characteristics, or even the lack of access to technology that necessarily leads to disease. It can be assumed that all the above converge in a unique lifestyle dynamic.

The UO lifestyle consists of dozens of daily interactions. For men, it is three prayer sessions daily in a quorum (of at least 10 men), leading to people meeting again and again. The schools, the playgrounds, the shopping area, the leisure activities of the adults—in short, nearly all the community's activity—has a community base, usually within the boundaries of the UO neighborhood. This creates an insular, but warm, supportive, and cohesive world that is probably the main reason that the UO community ranks highest in Israel in satisfaction with life (CBS, 2018b). It also translates into social capital, providing resources and benefits that individual receive through their connections with others (Kawachi et al., 2008).

Now we ask, *What happens to the UO lifestyle in heterogeneous neighborhoods that significantly lowers the probability of contracting COVID-19?* UO people living in heterogeneous neighborhoods have the same lifestyles as the rest of their community members. Most are committed to the same religious intensity, and their daily structure is the same as that of the rest of the community. However, the degree of insularity is lower.

Everyday interactions, such as grocery shopping or children playing in a playground, are more diverse. Thus, in this case, it might be that this diversity (unlike the social capital) is the protective factor. These findings raise another set of questions regarding the relations between social capital and community resilience in the face of a global pandemic. As in the present case, does social capital, which for the most part is protective, turn into a source of contagion in times of epidemic?

An alternative way of thinking of this issue is the notion of the relationship between internal and external norms in closed communities. One of the biggest sources of social tension during the pandemic, and one that gained much media attention, was the lack of compliance among UO populations with mask-wearing and social distancing requirements—not just in Israel, but also in the large UO communities in New York and London. All of these communities suffered high COVID-19 infection rates (Halbfinger, 2020; Holmes, 2020; Sales, 2020). Among the numerous shared characteristics of all these communities, in Israel and elsewhere, geographical homogeneity is paramount. An exception to this rule is the UO community in Antwerp, where UO Jews live in Jewish neighborhoods which are socially, culturally, ethnically, and religiously diverse, similar to the mixed neighborhoods in Israel. Interestingly, COVID-19 infections rates among UO Jews in Antwerp were no higher than in the general population (Vanhamel et al., 2021). This, focuses a spotlight on an important question in urban planning, regarding the creation or formation of insular neighborhoods with their own strongly defined social norms. Most people adhere to social norms since deviating makes us feel odd or weird (Cialdini & Trost, 1998) or deviating makes us feel wrong and guilty and deviating threatens our relationships with our community (Crocker et al., 1998; Jetten & Hornsey, 2011; Levine & Marques, 2016; Monin & O'Connor, 2011).

When communities that are religiously, ethnically, or socially segregated are left alone in their own distinct spaces, they are more likely to reject the accepted social norms of general society, and indeed its authority and laws (Malovicki-Yaffe, 2020). This is another aspect of neighborhood resilience. While the strong social capital of insular neighborhoods is usually a strength, during an epidemic it becomes a dangerous weakness. In our case, the fact that the UO population largely resides in insular homogeneous neighborhoods means that it feels less pressure to follow regulations imposed by the (secular) government, such as mask-wearing and social distancing, or other accepted general social norms. The stark differences between the Antwerp UO community and UO communities elsewhere would seem to support this thesis—that living in homogeneous closed communities encourages a tendency to ignore broader societal norms and regulations, even during an epidemic, leading to greater levels of sickness and potentially, higher casualties.<sup>11</sup>

Lastly we ask, *What can we learn from the research findings and apply in the planning of residential neighborhoods?* And more broadly, *What is the role of urban planning in dealing with global pandemics?* The findings illustrate the relation between urban planning and public health and emphasize the importance of implementing the urban-diversity approach in the construction of residential neighborhoods. As we have seen in the present case, the presence of neighbors from diverse backgrounds and lifestyles is a factor that reduces the likelihood of contracting COVID-19. We definitely are not arguing that the neighborhood's degree of heterogeneity is the only factor that affects the probability of contracting the disease, but our findings indicate a strong connection between the two that should not be ignored. The findings highlight the role of urban planning strategies in maintaining public

<sup>11</sup> It is worth noting that the UO community is largely law-abiding, and is also guided in this respect by the concept of “chilul Hashem,” according to which it is important to follow accepted secular norms and laws in order not to damage the reputation of religious Judaism in the outside world and attract criticism. This is an important religious precept, and one that in most cases UO Jews would be very mindful of and extremely careful to uphold (Malovicki-Yaffe, 2020). Yet the behavior observed during the COVID-19 pandemic was different.

health and their ability to reduce the likelihood and severity of epidemics. Furthermore, considerable thought should be given in urban planning to the characteristics of communities, their social structures, and the formation of social norms within them.

### Declaration of competing interest

None.

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### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.cities.2021.103526>.

### References

- Albers, M., & Deppisch, S. (2013). Resilience in the light of climate change: Useful approach or empty phrase for spatial planning? *European Plan. Stud.*, 21(10), 1598–1610. <https://doi.org/10.1080/09654313.2012.722961>
- Alfasi, N., Flint Ashery, S., & Benenson, I. (2013). Between the individual and the community: Residential patterns of the Haredi population in Jerusalem. *International Journal of Urban and Regional Research*, 37(6), 2152–2176.
- Alfasi, N., & Ganan, E. (2015). Jerusalem of (foreign) gold: Entrepreneurship and pattern-driven policy in a historic city. *Urban Geography*, 36(2), 157–180.
- August, M. (2016). Revitalisation gone wrong: Mixed-income public housing redevelopment in Toronto's Don mount court. *Urban Studies*, 53(16), 3405–3422.
- Bacon, G. C. (1991). Haredi conceptions of obligations and rights: Polish Jewry, c. 1900–1939. *Jewish Political Studies Review*, 85–95.
- Baldwin, R., & Weder di Mauro, B. (2012). *Economics in the time of COVID-19*. London Centre for Economic Policy Research (CEPR) Press.
- Barak, N., Sommer, U., & Muallem, N. (2021). Urban attributes and the spread of COVID-19: The effects of density, compliance and socio-political factors in Israel. *Science of the Total Environment*, 793. <https://doi.org/10.1016/j.scitotenv.2021.148626>
- Barrios, R. E. (2014). "Here, I'm not at ease": Anthropological perspectives on community resilience. *Disasters*, 38(2), 329–350.
- Bateman, T. (2020). *Coronavirus: Israel's Ultra-Orthodox lockdown challenge*. BBC News. <https://www.bbc.com/news/av/world-middle-east-52189059>.
- Berkes, F., & Ross, H. (2013). Community resilience: Toward an integrated approach. *Society & Natural Resources: An International Journal*, 26(1), 5–20. <https://doi.org/10.1080/08941920.2012.736605>
- Biddulph, M. (2011). Urban design, regeneration and the entrepreneurial city. *Progress in Planning*, 76(2), 63–103.
- Bogost, I. (2020). Uncharted: Revenge of the suburbs—Suburbia was never as bad as anyone said it was. Now it's looking even better. *The Atlantic*. June 19. Retrieved July 16, 2020 <https://www.theatlantic.com/technology/archive/2020/06/pandemic-suburbs-are-best/613300/>.
- Brandariz, A. J., & Fernández-Bessa, C. (2021). Coronavirus and immigration detention in Europe: The short summer of Abolitionism? *Social Sciences*, 10, 226. <https://doi.org/10.3390/socsci10060226>
- Brown, B. (2000). Orthodox Judaism. In J. Neuser, & A. J. Avery-Peck (Eds.), *The Blackwell companion to Judaism* (pp. 311–333). Oxford: Blackwell.
- Brown, B. (2014). Jewish political theology: The doctrine of "Da'at Torah" as a case study. *Harvard Theological Review*, 107(3), 255–289.
- Burgess, K. (2021). 64% of London's ultra-orthodox Jews infected with Covid. *The Times*. February 2021. Retrieved Aug 10 <https://www.thetimes.co.uk/article/64-of-londons-ultra-orthodox-jews-infected-with-covid-5dhkw3lz0>.
- Cahaner, L., & Mansfeld, Y. (2012). A voyage from religiousness to secularity and back: A glimpse into "Haredi" tourists. *Journal of Heritage Tourism*, 7(4), 301–321.
- Cahaner, L., & Shilhav, Y. (2012). From ghetto to suburb-changes in the Ultra-Orthodox space in Israel. In K. Caplan, & N. Stadler (Eds.), *From survival to consolidation: Changes in Israeli Haredi society and its scholarly study* (pp. 252–272). Jerusalem: Van Leer Institute.
- CBS. (2018). <https://www.cbs.gov.il/he/subjects/Pages/%D7%99%D7%9C%D7%95%D7%93%D7%94%D7%95%D7%A4%D7%A8%D7%99%D7%95%D7%9F.aspx> (retrieved August 4, 2020).
- CBS. (2018). January [https://www.cbs.gov.il/he/publications/doclib/2018/rep\\_10/intro1\\_h.pdf](https://www.cbs.gov.il/he/publications/doclib/2018/rep_10/intro1_h.pdf).
- CBS. (2019). Israel in numbers on the Jewish New Year's Eve. Selected data from the annual tables 2019. [https://www.cbs.gov.il/he/mediarelease/DocLib/2019/304/11\\_19\\_304b.pdf](https://www.cbs.gov.il/he/mediarelease/DocLib/2019/304/11_19_304b.pdf) (retrieved August4, 2020).
- Cho, S. E., & Kim, S. (2017). Measuring urban diversity of Songjiang new town: A re-configuration of a Chinese suburb. *Habitat International*, 66, 32–41.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In (4th ed., 1–2. *The handbook of social psychology* (pp. 151–192). McGraw-Hill.
- Colding, J., & Barthel, S. (2013). The potential of "Urban green commons" in the resilience building of cities. *Ecological Economics*, 86, 156–166.
- Collier, M. J., Nedović-Budić, Z., Aerts, J., Connop, S., Foley, D., Foley, K., & Verburg, P. (2013). Transitioning to resilience and sustainability in urban communities. *Cities*, 32, S21–S28.
- Crocker, J., Major, B., & Steele, C. (1998). Social stigma. In (4th ed., 1–2. *The handbook of social psychology* (pp. 504–553). McGraw-Hill.
- Davoudi, S. (2012). Resilience: A bridging concept or a dead end? *Planning Theory and Practice*, 13(2), 299–307.
- Elizur, Y., & Malkin, L. (2014). *The war within: Israel's Ultra-Orthodox*. Abrams.
- Eroglu, E. (2021). Effects of Covid-19 outbreak on environment and renewable energy sector. *Environment, Development and Sustainability*, 23, 4782–4790.
- Fainstein, S. (2015). Resilience and justice. *International Journal of Urban and Regional Research*, 39(1), 157–167.
- Fainstein, S. S. (2005a). Cities and diversity: Should we want it? Can we plan for it? *Urban Affairs Review*, 41(1), 3–19.
- Fainstein, S. S. (2005). The return of urban renewal. *Harvard Design Magazine*, 22.
- Fainstein, S. S. (2010). *The just city*. Ithaca, NY: Cornell University Press.
- Fainstein, S. S. (2016). Spatial justice and planning. In *Readings in Planning Theory* (4th ed., pp. 258–270). John Wiley & Sons.
- Feiner, S. (2011). *The Jewish enlightenment*. University of Pennsylvania Press.
- Fitzgibbons, J., & Mitchell, C. (2019). Just urban futures? Exploring equity in "100 resilient cities". *World Development*, 122, 648–659.
- Florida, R. (2002). *The rise of the creative class*. New York: Basic Books.
- Florida, R. (2020). *The forces that will reshape American cities*. July 2. Retrieved July 16, 2020. Bloomberg City Lab <https://www.bloomberg.com/news/features/2020-07-02/how-coronavirus-will-reshape-u-s-cities>.
- Friedman, M. (1991). *The haredi (ultra-orthodox) society: Sources, trends and processes*. Jerusalem: The Jerusalem Institute for Israel Studies.
- Friedman, M., & Shilhav, J. (1986). *Growth and segregation of the ultra-orthodox community of Jerusalem*. Jerusalem: Jerusalem Institute for Israel Studies.
- Friedman, S. Ultra-Orthodox non-compliance rests on fear. *The Times of Israel* Oct, 26, 2020. Retrieved July 27, 2021 <https://blogs.timesofisrael.com/ultra-orthodox-non-compliance-rests-on-fear/>.
- Galster, G. (2007). Neighborhood social mix as a goal of housing policy: A theoretical analysis. *European Journal of Housing Policy*, 7(1), 19–43.
- Gautam, S. (2020a). The influence of COVID-19 on air quality in India: A boon or inutility. *Bulletin of Environmental Contamination and Toxicology*. <https://doi.org/10.1007/s00128-020-02877-y>
- Gautam, S., & Trivedi, U. K. (2020). Global implication of bioaerosol in pandemic. *Environment, Development and Sustainability*, 22, 3861–3865.
- Gilman, S. L. (2021). Placing the blame for Covid-19 in and on ultra-orthodox communities. *Modern Judaism*, 41(1), 1–30.
- Godschalk, D. R. (2003). Urban Hazard mitigation: Creating resilient cities. *Natural Hazards Review*, 4(3), 136–143. [www.tc.umn.edu/~blume013/Godschalk\\_urb\\_haz\\_mit2003.pdf](http://www.tc.umn.edu/~blume013/Godschalk_urb_haz_mit2003.pdf).
- Grant, J. (2002). Mixed use in theory and practice: Canadian experience with implementing a planning principle. *Journal of the American Planning Association*, 68(1), 71–84.
- Guttentag, G. (2020). Israelis are suffering due to coronavirus, and Haredim have been made the scapegoat. *Washington Jewish Week*, April 14. Retrieved July 25, 2021 <https://www.washingtonjewishweek.com/65798/israelis-are-suffering-due-to-coronavirus-haredim-have-been-made-the-scapegoat/editorial-opinion/voices>.
- Halbfinger, D., & Kershner, I. (2020). Israel's virus czar was making headway. Then he tangled with a Netanyahu ally. *New York Times*, September 8. Retrieved July 25, 2021 <https://www.nytimes.com/2020/09/08/world/middleeast/israel-coronavirus-ronni-gamzu-netanyahu.html>.
- Halbfinger, M. D. (2020). *Virus soars among ultra-orthodox Jews as many flout Israel's rules*. May 7. Retrieved, August 22, 2020. *New York Times* <https://www.nytimes.com/2020/03/30/world/middleeast/coronavirus-israel-cases-orthodox.html>.
- Hamidi, S., Sabouri, S., & Ewing, R. (2020). Does density aggravate the COVID-19 pandemic? *Journal of the American Planning Association*. <https://doi.org/10.1080/01944363.2020.1777891>
- Hananel, R. (2014). Can centralization, decentralization and welfare go together? The case of Massachusetts affordable housing policy. *Urban Studies*, 51(12), 2487–2502.
- Hananel, R. (2017). From central to marginal: The trajectory of Israel's public-housing policy. *Urban Studies*, 54(11), 2432–2447.
- Hananel, R. (2019). Public housing, national resilience, and neoliberalism: Rethinking Israel's public housing policy. *Natl. Resil. Pol. Soc.*, 1, 23–52.
- Hanau, S. (2020). NYC Jewish schools to stay open as public education institutions close. *Times of Israel*, November, 19. Retrieved Aug10.2021 <https://www.timesofisrael.com/nyc-jewish-schools-to-stay-open-as-public-education-institutions-close/>.
- Haramati, T., & Hananel, R. (2016). Is anybody home? The influence of ghost apartments on urban diversity in Tel-Aviv and Jerusalem. *Cities*, 56, 109–118.
- Heilman, U. (2020). From New York to Milan, how coronavirus is hitting Jewish communities worldwide, *Times of Israel*. <https://www.timesofisrael.com/from-new-york-to-milan-how-coronavirus-is-hitting-jewish-communities-worldwide/#gs.f3on4g> [Hebrew].
- Hildesheimer, M. (1994). The Attitude of the Hatam Sofer toward Moses Mendelssohn. January. In *Proceedings of the American Academy for Jewish research* (pp. 141–187). American Academy of Jewish Research.

- Holmes, O. (2020). Calls to seal off Ultra-Orthodox areas add to Israel's virus tensions. *The Guardian*. April 6. Retrieved July 25, 2021 <https://www.the-guardian.com/world/2020/apr/06/calls-to-seal-off-ultra-orthodox-areas-adds-tension-to-israels-virus-response>.
- Jacobs, J. (1961). *The death and life of great American cities*. New York, NY: Vintage.
- Jetten, J., & Hornsey, M. J. (2011). *Rebels in groups: Dissent, deviance, difference, and defiance*. John Wiley & Sons.
- Kalagy, T., & Braun-Lewensohn, O. (2019). Agency of preservation or change: Ultra-orthodox educated women in the field of employment. *Community, Work & Family*, 22(2), 229–250.
- Katz, J. (2000). *Tradition and crisis: Jewish society at the end of the middle ages*. Syracuse University Press.
- Kawachi, I., Subramanian, S. V., & Kim, D. (2008). Social capital and health. In *Social Capital and Health* (pp. 1–26). New York, NY: Springer.
- Keren-Kratz, M. (2016). Westernization and israelization within Israel's extreme Orthodox Haredi society. *Israel Studies Review*, 31(2), 101–129.
- Kingsley, P. (2021). How many funerals will come out of this one? *The New York Times*. <https://www.nytimes.com/interactive/2021/02/17/world/middleeast/israel-orthodox-jews-haredim.html>.
- Kleinmans, R. (2004). Social implications of housing diversification in urban renewal: A review of recent literature. *Journal of Housing and the Built Environment*, 19(4), 367–390.
- Kumagai, Y., Gibson, R. B., & Filion, P. (2010). Translating resilience into the urban context: Past successes and future uncertainties in Tokyo. *Critical Planning*, 17 (Summer), 66–87.
- Lai, K. Y., Webster, C., Kumari, S., & Sarkar, C. (2020). The nature of cities and the COVID-19 pandemic. *Current Opinion in Environmental Sustainability*, 46, 27–31.
- Leichenko, R. (2011). Climate change and urban resilience. *Current Opinion in Environmental Sustainability*, 3(3), 164–168. <https://doi.org/10.1016/j.cosust.2010.12.014>
- Levine, J. M., & Marques, J. M. (2016). Norm violators as threats and opportunities: The many faces of deviance in groups. *Group Processes & Intergroup Relations*, 19(5), 545–552. <https://doi.org/10.1177/1368430216657415>
- Malach, G., & Freidman. (2020). How can we curb the spread of the coronavirus in the Haredi community. *The times of Israel* Retrieved July 27, 2021 <https://blogs.timesofisrael.com/how-can-we-curb-the-spread-of-the-coronavirus-in-the-ultra-orthodox-community/>.
- Malach, G., & Cahaner, L. (2017). Elements of modern life or “modern ultra-Orthodoxy”? Numerical assessment of modernization processes in ultra-orthodox society. *Democratic Culture*, 17, 19–52.
- Malchi, A., Malach, G., & Friedman, S. (2020). Haredim and coronavirus: Policy recommendations for exit from second lockdown. *The Israel Democracy Institute*. Retrieved Aug 10, 2021 <https://en.idi.org.il/articles/32679>.
- Malovicki-Yaffe, N. (2020). Capabilities and universalism—An empirical examination: The case of the ultra-orthodox community. *Journal of Human Development and Capabilities*, 21(1), 84–98.
- Malovicki-Yaffe, N., McDonald, M., Halperin, E., & Saguy, T. (2018a). God, sex, and money among the ultra-orthodox in Israel: An integrated sociocultural and evolutionary perspective. *Evolution and Human Behavior*, 39(6), 622–631.
- Malovicki-Yaffe, N., Solak, N., Halperin, E., & Saguy, T. (2018). “Poor is pious”: Distinctiveness threat increases glorification of poverty among the poor. *European Journal of Social Psychology*, 48(4), 460–471.
- Mansfeld, Y., & Cahaner, L. (2013). Ultra-Orthodox Jewish tourism: A differential passage out of a sociocultural bubble to the “open space”. *Tourism Analysis*, 18(1), 15–27.
- Meerow, S., & Newell, J. P. (2016). Urban resilience for whom, what, when, where, and why? *Urban Geography*, 00(00), 1–21.
- Megahed, N. A., & Ghoneim, E. M. (2020). Antivirus-built environment: Lessons learned from COVID-19 pandemic. *Sustainable Cities and Society*, 61, Article 102350.
- Monin, B., & O'Connor, K. (2011). *Reactions to defiant deviants: Deliverance or defensiveness? In rebels in groups: Dissent, deviance, difference and defiance*. In (pp. 261–280). Wiley-Blackwell.
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C.Agha, R., ... (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78, 185.
- Nir, S. M., & Otterman, S. (2020). 15% of virus tests are positive, and few wear masks in one Orthodox suburb. *The New York Times*.
- Omer, K., Bar-On, Y. M., Milo, T., Katzir, I., Mayo, A., Korem, Y., Dudovich, B., Yashiv, E., Zehavi, A. J., Davidovitch, N., Milo, R., & Alon, U. (2020). Adaptive cyclic exit strategies from lockdown to suppress COVID-19 and allow economic activity. *MedRxiv*. <https://doi.org/10.1101/2020.04.04.20053579>
- Peters, A., Vetter, P., Guitart, C., Lotfnejad, N., & Pittet, D. (2020). Understanding the emerging coronavirus: What it means for health security and infection prevention. *Journal of Hospital Infection*. <https://doi.org/10.1016/j.jhin.2020.02.023>
- Pew Research Center. (2013). *A portrait of Jewish Americans*. *Pew religion and life project*.
- Pirutinsky, S., Cherniak, A. D., & Rosmarin, D. H. (2020). COVID-19, mental health, and religious coping among American Orthodox Jews. *Journal of Religion and Health*, 1–14.
- Porter, L., & Davoudi, S. (2012). The politics of resilience for planning: A cautionary note. *Planning, Theory and Practice*, 13(2), 329–333.
- Quigley, M., Blair, N., & Davison, K. (2018). Articulating a social-ecological resilience agenda for urban design. *J. Urban Des.*, 23(4), 581–602. <https://doi.org/10.1080/13574809.2018.1440176>
- Rebhun, U., Malach, G., & Gavison, R. (2009). *Demographic trends in Israel*. *Metzilah Center for Zionist, Jewish, liberal and humanist thought*.
- Regev, I. (2019). Housing market characteristics and the geographical distribution of the ultra-Orthodox population in Israel. In , 145. *Policy research*. The Israel Democracy Institute [Hebrew].
- Rosen, G., & Razin, E. (2008). Enclosed residential neighborhoods in Israel: From landscapes of heritage and frontier enclaves to new gated communities. *Environment and Planning, A*(40), 2895–2913.
- Ruming, K. J., Mee, K. J., & McGuirk, P. M. (2004). Questioning the rhetoric of social mix: Courteous community or hidden hostility? *Australian Geographical Studies*, 42 (2), 234–248.
- Rydin, Y., & Pennington, M. (2000). Public participation and local environmental planning: The collective action problem and the potential of social capital. *Local Environment*, 5, 153–169.
- Saban, M., Myers, V., Shachar, T., Miron, O., & Wilf-Miron, R. R. (2021). Effect of socioeconomic and ethnic characteristics on COVID-19 infection: The case of the ultra-orthodox and the Arab communities in Israel. *Journal of Racial and Ethnic Health Disparities*, 1–8.
- Sales, B. (2020). *Brooklyn's Orthodox neighborhoods have especially high rates of the coronavirus*. April, 2. Retrieved August 22, 2020. Jewish Telegraphic Agency <https://www.jta.org/2020/04/02/united-states/brooklyn-orthodox-neighborhoods-have-especially-high-rates-of-coronavirus>.
- Sandercock, L. (1998). *Towards Cosmopolis: Planning for multicultural cities*. New York: John Wiley and Sons.
- Schattnner, A., & Klepfish, A. (2020). Orthodox Judaism as a risk factor of Covid-19 in Israel. *The American Journal of the Medical Sciences*, 360(3), 304.
- Schreiber, A. M. (2002). The Hatam Sofer's nuanced attitude towards secular learning, “Maskilim”, and reformers. *The Torah u-Madda Journal*, 11, 123–173.
- Schwartz, F., & Lieber, D. (2021). *Israel's leaders clash with Ultraorthodox over Covid-19 lockdowns, vaccines*. February, 1. Retrieved August 22, 2020. *The Wall Street Journal* <https://www.wsj.com/articles/israels-leaders-clash-with-ultraorthodox-over-lockdowns-vaccines-11612199623>.
- Shamai, M., & Hananel, R. (2021). One + one + one = a lot: The cumulative effect of Israel's flagship urban renewal policy on neighborhood diversity. *Land Use Policy*, 100.
- Shilhav, J., & Friedman, M. (1989). Growth and segregation: The ultra-orthodox community of Jerusalem. In *Jerusalem Institute for Israel Studies*.
- Shoshana, A. (2014). Space, heterogeneity, and everyday life: Ultra-Orthodox heterotopia in Israel. *Journal of Contemporary Ethnography*, 43(5), 527–555.
- Simone, C., Iandolo, F., Fulco, I., & Loia, F. (2020). Rome was not built in a day. Resilience and the eternal city: Insights for urban management. *Cities*, 110. <https://doi.org/10.1016/j.cities.2020.103070>
- Sokol, D. (2020). Will the coronavirus make the suburbs popular again?, AD PRO, *Cities*. April 21, 2020 <https://www.architecturaldigest.com/story/will-the-coronavirus-make-the-suburbs-popular-again> (Retrieved July 16, 2020).
- Stack, L. (2020). “Plague on a biblical scale”: *Hasidic families hit hard by virus*. *New York Times* [Hebrew] <https://www.nytimes.com/2020/04/21/nyregion/coronavirus-jews-ha-sidic-ny.html>.
- Stadler, N. (2002). Is profane work an obstacle to salvation? The case of ultra-Orthodox (Haredi) Jews in contemporary Israel. *Sociology of Religion*, 63(4), 455–474.
- Stadler, N. (2009). *Yeshiva fundamentalism: Piety, gender, and resistance in the ultra-orthodox world*. NYU Press.
- Stadler, N., Lomsky-Feder, E., & Ben-Ari, E. (2008). Fundamentalism's encounters with citizenship: The Haredim in Israel. *Citizenship Studies*, 12(3), 215–231.
- Stern, Y.. Kanievsky's actions close to organized civil disobedience campaign. *The Jerusalem Post*. October 27, 2020. Retrieved July 27, 2021 <https://www.jpost.com/opinion/kanievskys-actions-close-to-organized-civil-disobedience-campaign-646658>.
- Talen, E. (2005). Land use zoning and human diversity: Exploring the connection. *Journal of Urban Planning and Development*, 131(4), 214–232.
- Talen, E. (2012). Zoning and diversity in historical perspective. *Journal of Planning History*, 11(4), 330–347.
- Teernstra, A. (2015). Contextualizing state-led gentrification: Goals of governing actors in generating neighborhood upgrading. *Environment and Planning A: Economy and Space*, 47(7), 1460–1479.
- UNESCO. (2008). Links between biological and cultural diversity —concepts, methods and experiences. In *Report of the International Workshop*. Paris.
- Vanhamel, J., Meudec, M., Van Landeghem, E., Ronse, M., Gryseels, C., Reyniers, T., Nöstlinger, C., ... (2021). Understanding how communities respond to COVID-19: Experiences from the Orthodox Jewish communities of Antwerp city. *International Journal for Equity in Health*, 20(1), 1–13.
- Venkatesan, P. (2020). The changing demographics of COVID-19. *Respiratory Medicine*, 8 (12), E95. [https://doi.org/10.1016/S2213-2600\(20\)30461-6](https://doi.org/10.1016/S2213-2600(20)30461-6)
- Volk, A. A., Brazil, K. J., Franklin-Luthera, P., Dane, A. V., & Vaillancourt, T. (2021). The influence of demographics and personality on COVID-19 coping in young adults. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110398>
- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social-ecological systems. *Ecology and Society*, 9(2), Article 5. [www.ecologyandsociety.org/vol9/iss2/art5/](http://www.ecologyandsociety.org/vol9/iss2/art5/).
- Wang, Z., & Tang, K. (2020). Combating COVID-19: Health equity matters. *Nature Medicine*, 26(4), 458.
- Warddeker, J. A., Jong, A., de Knoop, J. M., & Van Der Sluijs, J. P. (2010). Operationalising a resilience approach to adapting an urban delta to uncertain climate changes. *Technological Forecasting & Social Change*, 77(6), S987–S998. <https://doi.org/10.1016/j.techfore.2009.11.005>
- WHO, n.d.WHO. (n.d.). Coronavirus pandemic: Numbers at a glance. Retrieved July 13, 2021. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019?>

- gclid=CjwKCAjw87SHBhBiEiwAukSeUdX778EyWKEYIL2FdQ89mlHYFIJ6Hj1jT\_Q47yqrTri09P7ju16NaxoC7LgQAvD\_BwE.
- Wilkinson, C. (2012). Urban resilience: What does it mean in planning practice? *Planning Theory and Practice*, 13(2), 319–324.
- Wisse, R. R. (2007). The Yiddish policemen's union by Michael Chabon. <https://www.commentary.org/articles/ruth-wisse/the-yiddish-policemens-union-by-michael-chabon/>. Commentary, July/August.
- Wyly, E. K., & Hammel, D. J. (1999). Islands of decay in seas of renewal: Housing policy and the resurgence of gentrification. *Housing Policy Debate*, 10(4), 711–771.
- Ye, J. (2017). Contours of urban diversity and coexistence. *Geography Compass*, 11(9), 1–8.
- Young, I. M. (1990). *Justice and the politics of difference*. Princeton University Press.
- Zicherman, C. (2016). *Strategic housing plan for the Haredi population 2016-2035*. Retrieved July 25, 2021. Jerusalem: The Haredi Institute for Public Affairs and the Ministry of Construction and Housing.