



Justice and inequality in space—A socio-normative analysis

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ABSTRACT

Issues of justice and inequality are among the most compelling themes in spatial studies. And yet, the field lacks a normative approach to justice in measurements of inequality in spatial scales, either in the regional, or alternatively, in the urban. In a paper by Israel and Frenkel (2018), the authors offer a theoretical framework that advances the study of social justice in space. It utilizes concepts of Pierre Bourdieu's theory on social class, while using Amartya Sen's 'capabilities' approach to justice to define the metrics of this concept. We take their proposed framework and examine it empirically by means of a regional case study in Israel. Data were collected on a central region in Israel and a field survey was conducted on more than 1000 households. The concept of justice and the socio-spatial structures under which justice is created were converted into measurable values. By using Explanatory Factor Analysis and Structural Equation Modeling, the conceptual framework was quantitatively estimated. In accordance with the inspected theory, we show that the interrelationship between a person's location in the social space and living environment influences his or her life-chances. The empirical results demonstrate how the proposed theory can be operationalized—that is, binding a normative idea with an empirically based scrutinization of the social and cultural constraints that affect freedom of choice. The framework's operationalization allows for applying it in future endeavors that strive to understand what normative implications spatial development carry when relating to the social space and built environment of a place.

1. Introduction

Questions of justice, equity and inequality are behind fundamental societal divisions, have been the subject of much academic debate, and have motivated significant governmental action (Stiglitz et al., 2009; Piketty, 2014). In the social sciences, well-being and the avoidance of human suffering are prominent themes. Over the years, several scholars that concerned with issues that of regional and local development have suggested basic principles of spatial-social justice (Heynen et al. 2018; Jones et al. 2019). Many of these attempts have explored the extent to which development and economic growth benefit diverse social groups (Florida and Mellander, 2016; Etherington and Jones, 2009; Truelove, 1993). These efforts have been deployed across varying spatial processes, scales and phenomena, including in the forms of globalization, urbanization, suburbanization, gentrification, immigration, environmental nuisances, and hazards.

While injustice can lead to social consequences, such as shunning, segregation and exclusion, discussions of the metric by which normative arguments (i.e. justice) can be measured has been somewhat lacking, often concentrating on the implications in terms of inequality. Taking, for example, Danny Dorling's seminal book *Injustice: Why social*

inequality still persists (2010), as well as the work of others (e.g. Wei's 2015 review) one can witness how the assertion that inequality is on the rise in contemporary neo-liberal economic regimes, and how it is demonstrated with particular kinds of measurements and arguments, including education, political participation, health, crime, environment and human development (Lamont, 2018). However, in the field of geography, in the theorization of the how just a place is (e.g. Soja, 2010; Hobson, 2006), little attention has been given to what constitutes the right (i.e. the just), making this work lack normativity (Jamal and Hales, 2016; Davis, 2011; Olson and Sayer, 2009).

In other words, the scholarship of contemporary social sciences put little effort into rethinking what kinds of spatial analytics might improve our normative understandings vis-à-vis human geography. This absence is not surprising given the descriptive and explanatory nature of geography, which means that in often is short of normative thinking (Sayer, 2015; Olson and Sayer, 2009; Sayer and Storper, 1997). Recently, Israel and Frenkel (2018) presented a theoretical framework that advances the connection between a normative approach to justice and its measurement. Their endeavor deeply relates to the ongoing calls for a normative turn in spatial studies that advances the exploration of avoidable human suffering (Olson, 2017). In this study we demonstrate

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how Israel and Frenkel's epistemological framework can be conceptually operationalized.

The questions of justice and its metrics are highly contentious (Robeyns and Brighouse 2010). Political theorists often debated about “what should we look at, when evaluating whether one state of affairs is more or less just than another? Should we evaluate distribution of happiness? Or wealth? Or life chances? Or some combination of these and other factors?” (Robeyns and Brighouse, 2010, p. 1). Unfortunately, these kinds of debates are mostly absent in the social sciences, and some geographers dismiss this kind of discussion (on this argument see: Barnett, 2018, 2017).

The absence of an investigation into justice and the metrics that measure it serves in Israel and Frenkel's framework as an example of the lack of normativity in studies of justice in the social sciences, as in geography. This lack signifies the ongoing divide between the social sciences and ethics (Callinicos, 2006). Under this disciplinary division, urban planners, geographers, and regional science scholars “remain rather averse to spending much time on normative questions about whether and how and why observable patterns of inequity, discrimination, or unevenness are actually unjust” (Barnett, 2016: 112). They thus, overlook the basic question of how to measure justice, (Israel and Frenkel, 2015), and the answers that do exist are overly simplistic (Sayer, 2009).

The consequence is that current methodological tools in the spatial sciences (as in other social sciences) hardly provide policymakers with the necessary knowledge to judge whether a certain situation is just or unjust. This determination is crucial in order to take initial steps toward alleviating a place's injustices, or minimizing growing inequalities (Davis, 2011). Therefore, “a metric of justice is needed in order to explore social outcomes of diverse spatial phenomena, thus directing spatial policy that advances sustainability and equality” (Israel and Frenkel, 2018, p. 648).

This separation of ethical from descriptive work calls then for an effort to rejoin the two approaches (Sayer, 2009). Israel and Frenkel contend with this call by suggesting a metric to measure justice, that is substantially drawn upon the theoretical conceptualization of Amartya Sen's ‘capabilities and functionings’, and Pierre Bourdieu's concepts of field, capital forms, and habitus.

However, the conceptual model developed by Israel and Frenkel (2018) remains a theoretical concept only. The current study presents an initial operationalization of this framework. Adopting their conceptual metrics, we attempt to do away with the persistent dichotomy between normative and empirical spatial inquiries (qualitative and quantitative). This attempt aims to provide a more philosophically robust theory for the social sciences generally, and for geography particularly. This is achieved through empirical analysis that uses the theoretical concepts established in their framework. To do this, data were collected on a central region in Israel and a field survey was conducted on more than 1,000 households. The concept of justice and the socio-spatial structures under which justice is created were converted into measurable values, signifying a possible normative turn in relation to a social-spatial theory. The results from the analysis using statistical models on the data support the validity of the conceptual framework proposed (or at least, not falsify by the empirical evidence).

2. Justice and the Lack of Normativity in the Social Sciences

Question of fairness and justice are discussed in depth within the social sciences' different disciplines (e.g. Dorling, 2010; Fainstein, 2010; Roemer, 1996; Rubinstein, 1988). However, these discussions tend to skip the basic question of what constitutes well-being in the first place (Barnett, 2018; Sayer, 2015; Olson and Sayer, 2009), and as such differs fundamentally from the normative interest in inequality by philosophers concerned with justice. While normativity relates to the

ought to be, social sciences seek to explore social phenomena and thus pertain to the *what is* (Sayer, 2011). Despite these inherent differences, the social sciences inherently contain an element of value, as critique is implicit in the scientific description of social life. Sayer (2011), for example, claims that values and critique are consistently used to describe “facts” in the social sciences and in what philosophers call “thick ethical concepts”.

It was twenty years ago when Sayer and Storper (1997) called for a normative turn in social theory that not just critiques the existent order but adds normative implications as to how things ought to be different. This call was largely echoed. The pursuit of a normative theory was found within work on specific social sciences issues such as development (Corbridge, 1997), gender (Hudson, 2006), urbanism (Muñoz, 2018; Soja, 2010; Marcuse, 2010), nourishing (Moragues-Faus, 2017), class (Hanafi, 2017), care (Williams, 2017), race (Pulido, 2016), human rights (Whiteside & Mah, 2012) and as mentioned before, spatial inequality (Israel and Frenkel, 2018; Barnett, 2018; Lake, 2018; Olson, 2017; Barnett, 2011).

Over the years, scholars have suggested some principles in order to theorize social justice under the social sciences (e.g., Bailey and Winchester, 2018; Lake, 2018; Jamal and Hales, 2016; Sayer, 2011; Llavador et al., 2010; Roemer, 1996; Truelove, 1993), while emphasizing critical stances that explore ‘unjust’ forms of human relationships. However, the study that advances understanding of ‘the relationship between the geographical ordering of the world and ideas about what is good, right and true’ (Cresswell, 2007: 132), specifically relates to, as Israel and Frenkel (2018) mention, the metric by which justice is explored and measured is largely absent.

A leading concept of Justice's metric in the social sciences was the theme of distributional justice. Relevant metrics of justice were concerned with the distribution of different sets of goods (e.g., utility and liberty) and the principles that govern the distribution of those goods (Sandel, 2009; Rubinstein, 1988). For example, John Rawls theory of justice, involves the distribution of several “primary goods” (2001: 58–61), including income and wealth, as well as basic freedoms, such as freedom of thought and consciousness, freedom of movement, and fair equality of opportunity.

However, Rawls's theory drew considerable critique, a critique which stressed that primary goods are hypothetical and a-historic, that they concentrate on personal liberty, and thereby overlook community as constitutive of one's consciousness (Sandel, 1984; Williams, 2006). The shortcomings of Rawls's theory led many in the social sciences to abandon the distributive concept and the embrace of a critical theory of justice (Barnett, 2018). Alternatives emphasized unjust forms of human relationships such as oppression and the lack of political access (Young, 1990). According to this approach, in order to abolish injustice, one has to explore the social structures that created these relations (Young, 2006). Balibar (1997) defined justice as non-discrimination, while he defined the concept of “freedom” as a fundamental element in alleviating oppression and discrimination, which should be analyzed within the institutional contexts in which distributions occur. Hobson (2006) theorizes performative justice, in relation to poststructuralist critiques and ongoing feminist and postcolonial concerns. She claims that (in)justice is conceived as micro-politics of conflicts theory, and explored through potential struggle and resistance, within local environmental and social spaces (i.e. performative sites) of resignification and meaning making.

These radical geographers and critical social scientists evoke new directions for geographers to explore justice, but concentrate in “identifying injustices and demonstrating the ‘*what is*’ of environmental and social justice, but not ‘*what ought to be*’” (Jamal and Hales, 2016, p. 176); the normative element of justice has been ignored in favor of the focus on political strategies for suppressing domination and oppression.

In the critical social sciences (and thus geography), little attention,

has been given to normative implications of the development of regions and metropolises (Barnett, 2017). For example, questions of how things ought to be different, and what we should evaluate in order to promote persons' well-being or avoidable suffering, were largely overlooked (Israel and Frenkel, 2018; Jamal and Hales, 2016; Sayer and Storper, 1997). While the question of what constitutes the 'right' metrics for defining and measuring justice provoke tremendous debate within the political philosophy, they have been elegantly avoided in the latest theories that contemplate justice in the social sciences (Barnett, 2011; Olson and Sayer, 2009). This situation demands a dialogue, as Sayer and Storper (1997) observed. In order to fill the gap, a metric that defines justice is needed in the study that advances the abolishment of avoidable human suffering in the social sciences. Here we think that Amartya Sen's theory (1992) can be productive.

Sen offers a theory of justice that doesn't suggest a philosophically robust model of justice, but a framework which has basic principle to understand the injustice (Sen, 2009). Recognizing the wrongdoing (i.e. injustice) does not require any commitment to specific theoretical ideas, but to rooted 'shared understandings and intuitions of injustice and indignation' (Barnett, 2011, 249). Accordingly, justice is to be conceived, not as an ideal but as "a condition that is approached through processes of repair, recognition, redress, reparation, and redistribution" (Barnett, 2017, p. 248). With this approach, the importance of the social sciences is central in elaborating and putting into practice justice that is based on a comparison that leads to judgements between feasible alternatives. That is, assessing justice of a state of affairs by reference to other situations. Sen's theory offers an unbound theory of justice which can be applied globally without being restricted to a given places and times.

In order to establish comparison framework, Sen suggests metrics that distinguish between "capabilities" and "functionings." Accordingly, "Capabilities" refer to a person's freedom to lead one type of life or another. That is, the belief that a person is "...free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen, 1985, p. 206). Thus, a person's set of capabilities reflect the freedom to achieve one's well-being and agency (Robeyns, 2005). The end result of justice, under Sen's approach, should be conceptualized in terms of people's capabilities to function, "that is, their effective opportunities to undertake the actions and activities that they want to engage in and be whom they want to be" (Robeyns, 2005, p. 95). This essence of a person's being and doings, (i.e. functioning), constitutes a valuable life to said person. In that sense, "Functionings" imply something a person already possesses (Sen, 1992). Capabilities reflect a person's liberty to exercise a combination of different functionings (Sen, 1987).

Justice, under Sen's perspective, will be measured, not hypothetically as Rawls (2001) suggested and not intuitively as suggested by Young (1990) or Balibar (1997). Rather justice should be measured by understanding the effectiveness with which people properly actualize (i.e. a social science perspective) their capabilities by participating in actions and activities in which they want to engage, having chosen them from a range of options (Abel & Frohlich, 2012). With the capabilities approach, a given set of functionings may shape a person's better-off life stance, his or her well-being, happiness, and health (Abel and Frohlich, 2012; Sen, 1993).

Israel and Frenkel (2018) are suggesting though that capabilities are only one part of an effort to bind normative thinking to a social theory. A purely descriptive metric of justice that does not deal with (in)justice's causes would be lacking as these causes are rooted in different economic, social, or political conflicting arenas (Marcuse, 2009; Robeyns, 2005). Therefore, a descriptive and explanatory tool is proposed to depict the socio-spatial structures and personal characteristics that constrain one's choices and freedoms. The next section describes this tool and discusses its components succinctly based on Israel and Frenkel's conceptual framework (2018).

3. Life-chances' pillars: The living environment and the means to achieve personal freedoms

This section presents Israel and Frenkel's conceptual framework that entwines positive social science with normative political philosophy (see also Appendix A). This serves as the basis for the empirical examination in this study. It ties the concept of justice with the socio-spatial structures that play a major role in the creation of fairness and in reproducing those structures, theorizing how processes of (in)justice can be conceptualized in spatial terms, and thus illustrating how the 'metric' could be utilized "to reflect different, interconnected socio-spatial scales and their structuration... produced within contemporary capitalism regimes and their injustices" (Israel and Frenkel, 2018, p. 659). Readers are invited to scrutinize the theoretical framework presented in detail in Israel and Frenkel's article (2018).

Their conceptual framework defines Amartya Sen's concepts of capabilities and functionings as a person's life chances, that is, the informational basis that enables an assessment of the existence or absence of equality and justice. Social justice, according to this approach, is a function of the capabilities of different agents that constitute a particular society, enabling him or her to perform desired actions in various fields of life that such a person values. With the capabilities approach, a given set of functionings may shape a person's well-being, happiness, and health (Sen, 1992). According to this conceptual framework, justice in democracies ensues from a citizenry that claims a sufficient set of capabilities to function as equals in society. Equality of capabilities is then the basic essence of social justice and serves as the normative aspect of Israel and Frenkel's (2018) argument. This equality is determined by two socio-spatial structures: the 'living environment', and the 'means to achieve personal freedoms'. The second pillar manifests a person's bundles of capital forms (i.e. social space) and their habitus.

The notion of capital forms and habitus are derived from Pierre Bourdieu's theory, which explains the complexity of social stratification and its reproduction (1986). For Bourdieu, society is a network of fields (e.g., arts, religion, academe and science), which are structured systems of social positions anchored in particular forms of power or capital, whether social (social networks and connections), economic (material wealth) or cultural (knowledge of the arts, good education). The habitus, that is, the internalization of the capital compound, results in human agency (Sayer, 2011).

Capital forms, or the social space, may have spatial substance as they express human interactions that exist in a certain place and time (Israel and Frenkel, 2018). Their aim is to produce advantages in a series of fields of life that transfer to other fields in a cumulative and reinforcing process (Savage et al., 2005). In order to shape one's personal choices, the individual has to actively use capital forms. For instance, money (economic capital) is "spent" on relevant behaviors, such as attending a cultural activity or choosing housing in a particular neighborhood. Conventionally, these personal activities signify a set of strategies aimed at establishing and maintaining social divisions, classification, and distinction (Savage, 2010). These strategies eventually manifest physically as they stimulate the development of places, thus organizing space into communities where people share similar social status (Oldrup, 2015; Savage, 2011; Watt, 2009; Bridge, 2006).

The second pillar in the proposed framework, the 'living environment' feeds, and at the same time is fed by the other pillar – the 'means to achieve personal freedoms'. Living environments manifest the political agendas of different communities, concealing power relationships within the social space (Savage, 2011). Places are a manifestation of their inhabitants' cognitive perception of their existence. This perception forges a political milieu expressing the values of a given community in a specific space (Andres, 2010; Watt, 2009; Webber, 2007). A place, for instance a locality or town, may have an investment policy, which expresses the community members' tastes and preferences, enabling those members to activate symbolic capital through this policy in

different fields including education, architectural design and the environment (Watt, 2009; Wynne and O'Connor, 1998).¹

The living environment, as a physical-material-perceptual entity, acts as a platform for enhancing a person's social capital by creating social networks and developing trust and reciprocity. The living environment provides the individual with a sense of belonging and place attachment (Bebbington, 1999). Urban design, social capital (Semenza and March 2009), education (Roscigno et al., 2006) and health (Prior et al. 2019; Altschuler et al. 2004) are all involved in determining a space's degree of trust and cooperation and persons' health, that molds the characteristics of local networks that eventually forge a communal political milieu. The living environment, in that sense, is not just an expression of relatively available indices to explore and interpret (e.g. income, race, education, etc.), but rather a passive process in the creation of the social space. That is, they represent a specific historical trajectory of structural characteristics, with broader set of outcomes that constitute a person's opportunities try (Lens, 2017). The place's living conditions characterizing a given locus forge a community whose members share both a similar life experience and a similar understanding of their position in the social space (Easthope, 2004). Thus, creating a sense of a place, a place's habitus that manifests the internalization of social practices, which in its actual performance is a reaching out to place, a being or becoming in place (Casey, 2001). In this way it becomes an arena of struggle, concealing power relationships of capital compounds which reinforce divisions of class, race and different forms of denial. Living environments determine patterns of privilege and renunciation regarding a person's capabilities (Israel and Frenkel, 2018).

Under the proposed framework (Appendix A), 'capabilities' are determined by a person's relative position in the social space and a particular living environment (the *what is*). Or in other words, the quantity and quality of capital forms available to him or her in a given time and space. Capabilities are also influenced from the conditions of the living environment. People who benefit from ample and diverse capital forms probably enjoy a larger range of liberties to perform in different social fields. They may use their privileged position (i.e. symbolic capital) in the social space to gain advantages. For instance, people with a strong set of capital forms can more easily choose their own community and social networks, and can better control their job opportunities, educational qualifications, and the school performance of their offspring (Bridge, 2006; Savage et al., 2005; Oldrup, 2015). This is the iterative process, as better exposure to life chances results from better personal capabilities to function as a social creature in contemporary capitalist world, thereby dialectically shaping habitus and enhancing the mix and volume of different forms of capital.

The amount of capital is reflected in a person's way of thinking and being (Abel and Frohlich 2012; Hart, 2013). The pattern of development and the production of the social and the spatial characteristics of places, affect the social fields in which an individual dominates or is being dominated. Being dominated within different social fields may result in an unconscious acceptance of domination, thus oppressing personal aspirations and shaping individual preferences (Bourdieu, 1998; Hart, 2013). In this way, capabilities shape a person's beliefs of what to do and be. Disadvantaged positions within the social space cause individuals to abandon ambitions that would facilitate their ability to flourish beyond a relative position in a given social field (Abel and Frohlich, 2012; Bourdieu, 1986). Thus, pursuing higher positions and functionalities from the state of constrained liberties would be very challenging, further eroding a person's capabilities.

In summary, Israel and Frenkel's framework offers a relational

¹ Symbolic capital is the fourth form of capital that Bourdieu conceived. It is an economic, social, or cultural capital when it is known and recognized. Recognition creates symbolic relations of power that tend to reproduce and to reinforce the structure of social space (Bourdieu, 1989).

perspective, one that exposes the interconnections of different forms of capital, a person's living environment and his or her capabilities. It emphasizes how flourishing and suffering are relational— one person's flourishing results from their relationship with others within a given space, thus creating the conditions of (in)justice and in reproducing them. Henceforth, the framework departs from liberal teleology of justice and embraces critical geographers' deliberation on how "...the spatial arrangement of locations ... masks... the real nature of social relations, that ... act as a manifestation of 'relational power,' forcing the exclusion of unwanted populations ... and the coalescence of social groups that benefit from cultural, economic, and social affinities" (Israel and Frenkel, 2018, p. 657).

While this work is consistent with recent critical attempts to deliberate injustice in space (e.g. Simandan's 2011 wicked vs. lenient environments, or his 2017s demonic geographies towards happiness and the good life; or Hobson's 2006 on performative justice; and even Krellenberg et al. (2017) regarding urban vulnerabilities to climate-related hazards), the uniqueness of Israel and Frenkel's framework lies in the convergence of a normative investigation with a social theory that mainly regards social arrangements of liberal democratic polities (2018, p. 648).

The rest of the paper presents an initial operationalization of this theory, by converting it into measurable values that signify a possible normative turn in relation to a social theory.

4. Methodology

4.1. Research hypotheses

On the basis of the theoretical model outlined, this study hypothesizes the existence of a relationship between two socio-spatial structures, the living environment and the basic means through which individuals form their personal liberties on the one hand, and the idea of social justice, as manifested in the capabilities and functionalities metrics on the other hand.

Hypothesis H1. A place's class stratification is reflected in a social space that consists of different accumulations of capital forms.

This hypothesis tests the existence of one of two components that takes effect in the theory of Israel and Frenkel (2018), a person's life chances, namely the 'means to achieve personal freedoms.' That is, describing a spatial social stratification, that 'forge[s] a community whose members share both a similar life experience and a similar understanding of their position in the social space' (Israel and Frenkel, 2018, p. 656). Accordingly, as Israel and Frenkel stress in their theory, deploying 'different forms of capital create and shapes the characteristics of the material landscape'.

Hypothesis H2. The characteristics of the social space affect an individual's life chances in various spheres of life.

Under the conceptual framework, any individual's set of capabilities is influenced by the amount of different forms of capital available to him or her (Israel and Frenkel, 2018, p. 658). Thus, the main aim of the second hypothesis is to test how a person's amalgam of capital forms in the social space is converted into 'capabilities' and subsequent 'functionings'.

Hypothesis H3. An individual's living environment affects a person's life chances through its effect on the characteristics of the individual's accumulated capital forms in the social space.

The living environment introduces power relationships of capital compounds that reinforce divisions of class, and denial (Watt, 2009;

Atkinson, 2006). As such, “it is an arena of struggle, directed both to strengthen and intensify or to challenge it” (Israel and Frenkel, 2018, p. 655), depending on the individual’s location within the social space. In order to test this theoretical teleology, the social space in the third hypothesis serves as an intermediary dimension between two concepts, the living environment, and life chances, since the latter are affected by the way capital forms are accumulated in this environment.

Hypothesis H4. Social space and the living environment affect an individual’s functioning in a given social field by mediating that individual’s capabilities.

This hypothesis tests the relationship between space and social class, regarding a person’s freedoms, and thus social justice. This intricate relationship derives from the idea that fairness or justice does not apply to the availability of resources alone (i.e. forms of capital), whether they relate to qualities or quantities (Israel and Frenkel, 2018). Therefore, enhancing personal capabilities aims at improving desirable functionings in order to facilitate obtaining desired social positions (Israel and Frenkel, 2018). Achieving equal ‘functionings’ requires, then, gaining equal ‘capabilities.’ However, capabilities emanate from a person’s capital forms, habitus, and the characteristics of his or her physical environment and political milieu.

Hypothesis H5. Improved capabilities and functionings positively affect a person’s positions in the social space.

This hypothesis directs to the cyclic nature in which class-of-origin affects offspring’s life-chances. Better exposure to life-chances can open additional opportunities to benefit from the existing social order (Israel and Frenkel, 2018). In this way, life-chances shape habitus and a person’s symbolic capital (i.e., mix and volume of different forms of capital). Capital, field, and habitus—acting together—effectively permit social inequalities to endure over time, building inter-generational effects. Constrained and denied liberties shape the context in which the next generation is raised.

4.2. Research methods

Exploratory and Confirmatory Factor Analysis Models were used to examine the existence of two interwoven socio-spatial structures, the living environment and the basic means through which individuals form their capabilities. In order to map these general concepts, a quantitative analysis of multiple variables was required (Robson and Sanders 2010; Lelli, 2001).

As a first step, Exploratory Factor Analysis (EFA) was used to explore a set of variables and for data-reduction. This procedure is required due to the social space’s intricacy, which requires multi-dimensional measurement (Robson and Sanders, 2010). The variables represent the concepts of social space as derived from the literature and collected through a field survey. Using EFA, it was possible to examine whether the variables chosen indeed related to the typology proposed in the conceptual framework. The EFA model created a set of latent variables presenting a capital profile that define the social space and characterizes the region used for empirical examination.

Employing Structural Equation Models (SEM) in the next step enabled the integration of the social space derived from the EFA’s latent variables with other structures that were proposed in the conceptual framework. Thus, it was possible to validate the theoretical conceptual framework through empirical examination (Garver and Mentzer, 1999).

Analysis of Moment Structures (AMOS) programming served to estimate the SEM model by identifying a range of connections between variables (observable) and factors (latent variables)². The graphical interface provided by AMOS enabled the construction of a second-order factor that constitutes a statistically corroborated concept, in which all

the factors confirmed by the EFA could be included. The new concept describes and validates the idea underlying the hypothesized factors (Koufteros et al. 2009) that is, the social space and the capital forms.

5. Data Collection

5.1. Population and research area

The empirical study took place in the Sharon region, which is a part of in Israel’s largest and most central metropolitan area – the Tel Aviv Metropolitan region. This selection was due to the region’s diverse settlement configurations, containing a central city and eight of its wealthier suburbs³ (Fig. 1). The diversity of localities in the selected region provided a variety of social, economic and cultural identities and conditions and a significant class division of the social space. The central city (Netanya) has 210,000 inhabitants (2016), while the suburban sector of the region contains approximately 90,000 inhabitants, and offers, in contrast to the city, high income neighborhoods which serve as sanctuaries for the wealthy.

Within the selected area, a field survey was conducted among households which served as the research population for an examination of living environments, the social space, and the capabilities and functionings of the area’s residents. The study population numbered 80,000 households.

A multi-stage sampling of the study population was conducted through the Stratified Random Sampling method. This sampling method, which consists of several layers, has the advantage of dividing the study population into sub-groups that more appropriately represent each sector (a city and its suburbs), locality, and texture (social and physical). The different layers contributed an unequal number of observations to the sample relative to the size of the population they represent (Fife-Schaw, 1995). The division of layers was based on demographic and socio-economic characteristics of the region’s populations (according to census data), as well as the characteristics of its built-up area (based on aerial photos and tours in the area), in order to produce homogeneous sub-regions for the purpose of sampling.

A well-constructed questionnaire was developed to collect data. The first part was devoted to collecting data on educational and cultural characteristics, which enabled characterization of the accumulation of cultural capital by the household heads, their parents and their children. The second part related to questions about the characteristics of the production and accumulation of social capital; i.e., social relationships. The third part addressed questions of economic capital. Finally, the fourth part asked respondents to indicate their exposure to capabilities, such as the ability of the household heads to find alternative employment in the event of a loss of employment (whether by resigning or being fired), their ability to finance academic study for their offspring, etc.

The questionnaire was used to collect data through personal interviews conducted with the heads of households in the region, according to the selected stratified random sample. Detailed guidelines and maps directed the interviewers that were operationalizing the survey to select households’ addresses in each of the sample’s strata by which the region was pre-divided. A total of 1063 completed questionnaires were

³ Since the study concerns the conceptual framework, we deliberately concentrated on sampling a relatively homogenous (Jewish) population, which is mainly divided by its class structure. The study examines a heterogeneous city (Netanya) and homogenous suburbs (Even Yehuda, Kfar Yona, Tel Mond, Pardesiyya, Elyakhin, Qadima-Zoran, and Kokhav Ya’ir). The towns of Tira, Tayibe and Qalansawe (i.e. the Arabs towns in Fig. 1) were not sampled. With different development patterns, distinctive class-ethnic structure (and thus with intra and inter ethnic-class injustices), these Arabs towns must be looked at separately than those in the Jewish sector. The importance of an examination of injustice in Arab towns notwithstanding, it goes beyond the scope of the current study.

² Factors or latent variables are also treated as concepts (Hair et al., 1998).

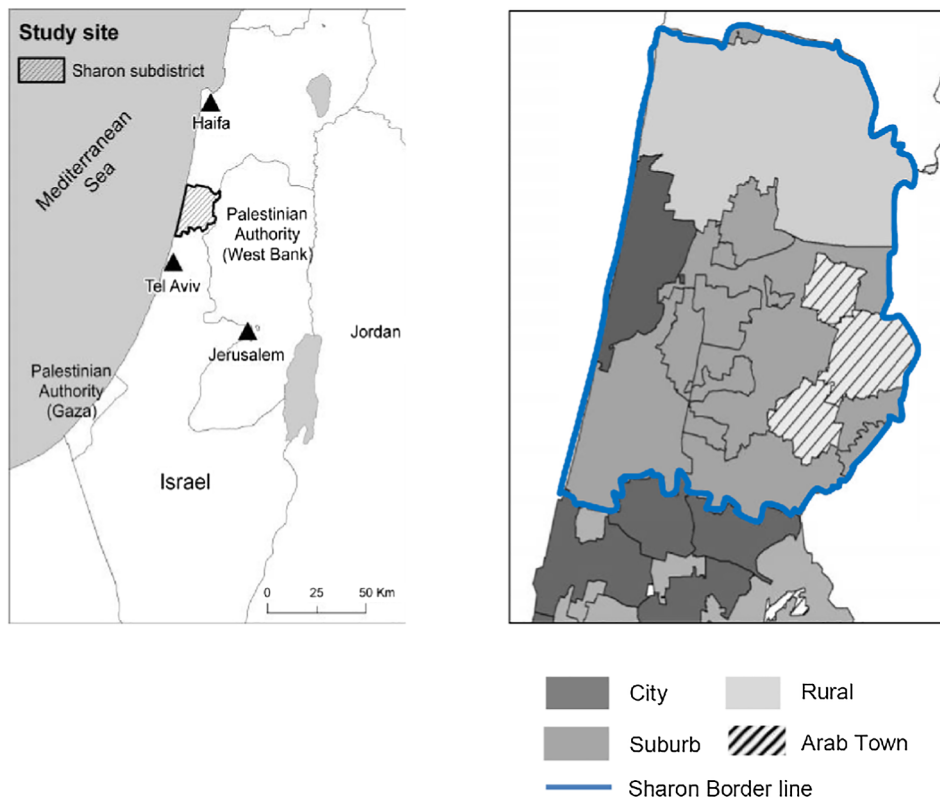


Fig. 1. Map of study area.

Table 1
Socioeconomic characteristics of the sample and research population.*

Characteristic	Population in the study area			Sample		
	N	Number	%	N	Number	%
Households with children (up to age 17)	1063	564	53.1	78,727	34,548	43.9
Age + 65	1063	360	33.9	251,510	28,704	11.4
Born in Israel (Households heads)	1959**	1090	55.6	239,999	158,845	66.2
Households with 2 + cars	1063	309	29.1	79,015	20,690	26.2
Heads of household working outside locality of residence	1864**	1055	56.6	187,221	100,064	53.4
Heads of households with an academic degree	1962**	839	42.8	187,219	48,009	25.6

* As taken from Israel Central Bureau of Statistics (CBS) 2008 Population Census, in regard to the study area.

** The figure represents the total number of household’s heads, for which available data was possible.

received, representing 1.5% of the total households in the region⁴.

As Table 1 indicates, the sample represents to a good extent the region in terms of the demographic, economic and educational characteristics of the population in the study area. A number of variables about the selected area were compared to the census data (Israel Central Bureau of Statistics, 2008). The percentage of households with more than two vehicles was similar in the population in the census data. In addition, the percentage of households with children and in the

household heads that were born in Israel were similar. However, in the study’s sample, elderly subjects are overrepresented as are individuals and families with a university degree.⁵

5.2. Variables

The list of the 31 variables that were built in the study to test the research hypotheses based on the data that were collected in the survey, is presented in Appendix B, together with the variables’ means and standard deviations. The Appendix also presents the references in the literature from which variables were identified as suitable for measuring the existence of justice in space according to the conceptual model. Most of the data were converted into categorical variables. Some of the variables demanded redefinition and the construction of

⁴ The survey included all households that reside in the studied region. Due to the sampling complexity and the size of the research area, no registration was conducted from which the survey response rate could be deduced. For example, there was no detailed listing of each apartment that a surveyor attempted to contact. The research population was composed of tens of thousands of households, a large part of whom were not at home during the surveyors’ efforts. Even though a registration of the apartments on which the surveyors’ knocked their doors would allow for a calculation of the general rate of response (whether household heads refused to participate in the survey, did not open the door of their homes, or were absent), it would have greatly complicated the field work.

⁵ The variations between the study’s sample and the region’s characteristics in these two groups are explained by their unique characteristics. Elderly people tend to seek social contact in light of possible solitude, and people with at least a first degree tend to be more enthusiastic about responding to surveys, demonstrating lower levels of suspicion and alienation.

complex variables to represent the common accumulation of capital by both household heads and their common capabilities. The new variables were used to create indices that represented the household as a single unit (household)⁶.

The list of variables includes 19 variables that were used to measure the social space based on the three Bourdieuan capital forms approach: economic capital (3 variables), cultural capital (12 variables) and social capital (4 variables). Two other variables represent the concept of the habitus of an individual; education of household heads' parents and the national/ethnic origin of the respondent's fathers. Another 4 variables measured the physical characteristics of the household's living area in the study region, and the municipality's expenditure on educational and cultural activities indicated its policy investment.

Lastly, five variables were used to measure capabilities based on Amartya Sen's approach. The distinction between achieved functionings and capabilities is "between the realized and the effectively possible; in other words, between achievements on the one hand, and freedoms or valuable options from which one can choose on the other." (Robeyns, 2005, p. 95). Capabilities in that sense are the beliefs of what he or she is free to do and achieve in pursuing what they regard as important (Sen, 1985). Based on Robeyns's (2003, p. 74) lists of capabilities, we chose to concentrate on those capabilities that refer to the individual's belief in the stability of the household's financial base, as well as in his or her belief in improving one's living conditions and to ensure educational resources for future generations⁷. The concentration on a person's beliefs, his or her capabilities, enables us to operationalize them as separate variables from an achieved functioning that is measured in this study by a person's 'job prestige.'⁸

6. Results

6.1. Capital forms and the social space

Exploratory factor analysis (EFA) with orthogonal rotation (Varimax rotation with Kaiser Normalization) of instrumental variables collected in the field survey was used for the identification of the social space in the study area. The procedure produced five factors. The factor loadings are presented in Table 2.

A factor-loading threshold of 0.63 serves as the basis for retaining the items for factor analysis and for factor labeling (Prato et al., 2005). In other words, it gives a unique "identity" to the factor, which allows a common terminology when examining the consistency of the outcome by means of the theoretical definitions of the three Bourdieusian capital forms discussed in the theoretical section above.

Tests of internal consistency and sample adequacy constituted the necessary preliminary conditions for conducting EFA. The forms of capital items obtained in the survey demonstrate good internal consistency (Cronbach's alpha = 0.923–0.715 with regard to the social space concept) and provided appropriate sampling adequacy for performing EFA according to the overall Kaiser-Meyer-Olkin measure (KMO = 0.879. (Kaiser, 1970, 1974).

The Spearman correlation matrix among the indicators provided the input for both the tests and the factor analyses. The correlation matrix

⁶ The way in which the 31 variables were constructed, how the measurement scale was determined, and how they were adjusted to the household heads' unified scale, along with the main sources we used to confirm the various variables are also presented in Appendix B.

⁷ Capabilities measurements in the current study rely on the operationalization of Sen's approach within different empirical studies (e.g., Krishnakumar and Ballon, 2008; Anand et al., 2005).

⁸ The tested variables do not relate (at least not directly) to many other forms of injustice, and thus variegated capabilities (e.g. avoidable human suffering, impingement of mental well-being, etc.). Future tests may address other concepts, and in doing such, to improve normative understandings that the theory promotes.

contains correlations with absolute values of 0.1–0.5, and the value of its determinant is 0.00004; hence, the existence of correlations without multi-collinearity is established. The result of the Bartlett's sphericity test rejects the null hypothesis that the correlation matrix is an identity matrix ($p = 0.000$) (Bartlett, 1954). The five factors, which manifest different forms of Bourdieuan capital, all together explain 69% of the variance, thus initially confirming the first hypothesis of the study, which underlies the social space concept of the studied region.

The social space's factors are as follows: (a) Embodied cultural capital, composed by variables that represent the individual's accumulated knowledge and cultural dispositions (Abel, 2008; de Graaf et al. 2000); (b) The individual's economic capital and his or her competence to enhance it. The factor mostly consists of variables indicating the household's material assets, along with cultural manifestations of a person's economic abilities (familiarity with a foreign language and the attendance of professional conferences); (c) Institutional-symbolic cultural capital. This factor relates to the symbolic prestige that is associated with educational and research institutions where persons acquired their academic training. It indicates a person's cultural capabilities (Flemmen et al., 2017; Breen & Jonsson, 2000); (d) Neighborhood cohesion and its social support, a factor that represents the individual's relationship with his or her social environment (Carpiano, 2006; Forrest and Kearns, 2001); (e) Inputs directed to enhance and to foster a person's cultural capital (Koustourakis et al. 2018; de Graaf et al., 2000). These inputs are invested by the household heads and exhibited in the frequency of their visits to highbrow cultural activity (e.g., attendance of classical music, theater, opera and ballet performances).

6.2. The SEM estimation – Empirical testing of the theoretical framework

Based on the results of the EFA analysis, Structural Equation Modeling (SEM) was used to empirically confirm the conceptual framework. The model examines the existence of an empirical association between capabilities and functioning of a given individual, and the underlying conditions that form these capabilities. The model consists of three empirical-theoretical frames: social space and the habitus background; living environment and the sphere of knowledge, which relates to the individual's capabilities; and functioning. Combining these empirical-theoretical frames into an inclusive model using direct and mediator paths (regression equations) for all its layers allows a detailed examination of the research hypotheses and the complex process that leads to the individual's exposure to life chances.

The SEM model was divided into two empirical layers: the first layer comprised of observable variables which served as the base of the second layer, which consisted of latent variables (concepts). The two layers represented the content worlds that comprised the proposed theory in the study. Fig. 2 and Table 3 present the results.

Nineteen dependent endogenous variables explain the five latent variables obtained from the EFA and expressed the class topography using the Bourdieuan capital forms approach, which represented the social space in the study area. Two dependent endogenous variables were used to build the concept of the habitus of an individual; education of household heads' parents and the national/ethnic origin of their fathers.

Four dependent endogenous variables were used to describe the concept that defined the individual's living environment, variables which expressed the local authority's expenditure (i.e. policy investments) on educational and cultural activities (as proxy variables that represent a place's political milieu), and the physical characteristics of a household's neighborhood. Five dependent endogenous variables formed the concept of the individual's capabilities according to Sen's approach.

These consisted of variables that referred to the individual's faith or liberty to pursue upgraded functionings and larger ambitions, thus representing his or her capacity to act in relation to their interests, finding

Table 2
Explanatory Factor Analysis (EFA) of capital forms: major factors¹ and factor loading.

Factor	Variable	Component (groups of factors) ²					% variance explained
		1	2	3	4	5	
Embodied cultural capital	Bigrf_BK	0.879	0.122	0.128	0.017	0.165	16.7
	Romns_BK	0.836	0.166	0.100	0.131	0.146	
	BKNO_HDCAT	0.832	0.051	0.168	0.120	0.136	
	PopScn_BK	0.815	0.206	0.135	-0.0090	0.178	
Economic capital and its enhancing competence	CAR_PVRCD	0.132	0.715	0.036	0.146	0.112	14.4
	STUS_JOBUN2	-0.016	0.714	0.123	0.065	-0.066	
	Engl	0.230	0.656	0.238	0.152	0.145	
	INC_HLD2	0.158	0.644	0.163	0.176	0.282	
	CONFR	0.151	0.628	0.202	0.031	0.261	
Institutional-symbolic cultural capital	ACDM_CONJ	0.165	0.173	0.922	0.029	0.136	14.0
	DIPLM_RNK	0.172	0.160	0.904	0.055	0.168	
	COJ_UNIGRPRD	0.179	0.333	0.846	0.081	0.125	
Neighborhood cohesion and its social support	NEIB_HLP	0.041	0.125	0.051	0.824	0.010	13.3
	NEIB_VLU	0.051	0.053	0.017	0.772	-0.046	
	NEIG_RLTN	0.039	0.083	-0.017	0.761	0.130	
	NEIG_WTCH	0.084	0.161	0.100	0.730	-0.094	
Inputs directed to enhance cultural capital	CONS_OPRA	0.152	-0.015	0.178	-0.070	0.789	10.5
	THATR	0.189	0.273	0.065	0.043	0.713	
	MUSM	0.243	0.301	0.151	0.017	0.693	

¹ Major factors were defined by eigenvalues > 1.

² Dominant measures were defined as those with an absolute value of the component coefficient greater than 0.6. In order to facilitate labeling the factors, the dominant items are marked in bold.

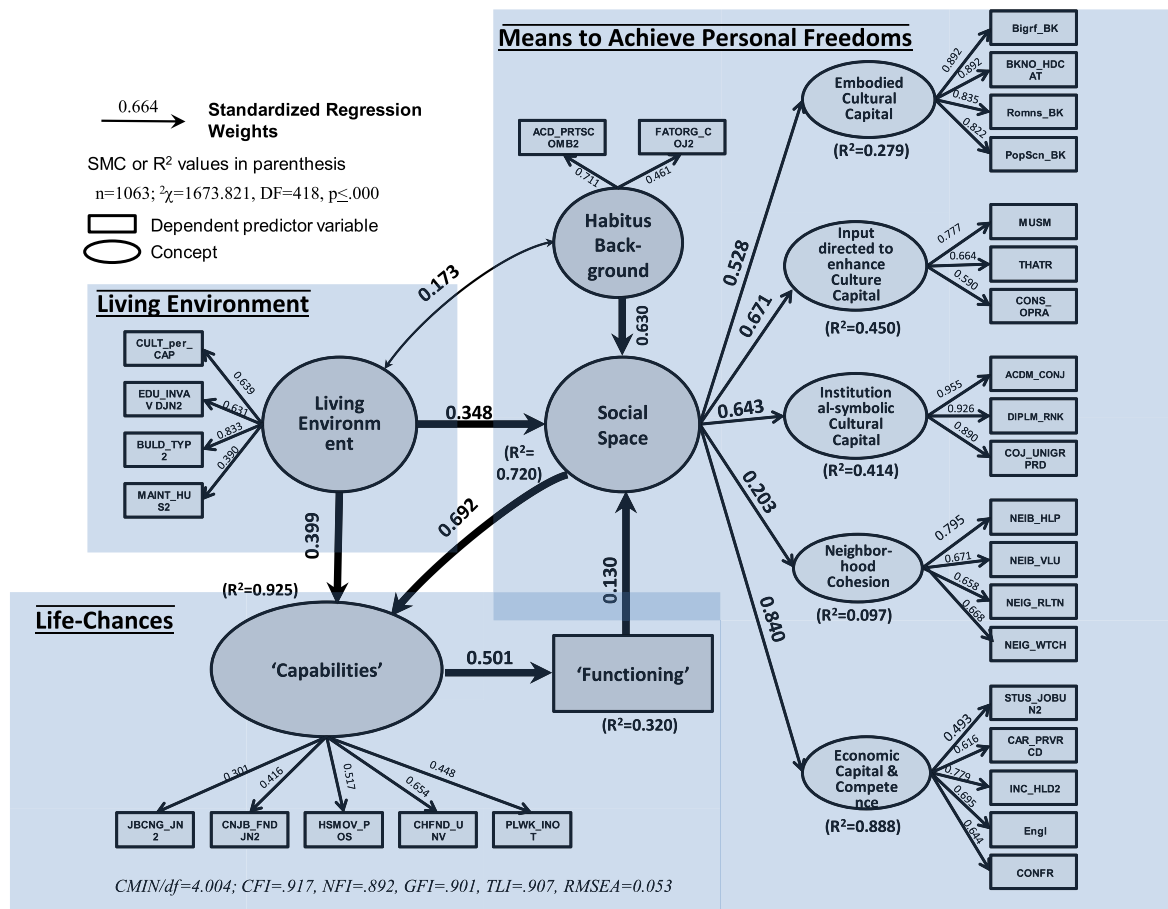


Fig. 2. Main statistical model - standardized values (SMC values in parenthesis).

Table 3
Variables used in the SEM model.

Concept	Variable	Estimate	SE	C.R. ¹	Standardized Regression Weights	Squared Multiple Correlation (SMC or R ²)
Habitus background	— > Social space	0.334	0.036	9.200***	0.630	0.720
	FATORG_COJ2	1			0.461	0.213
	ACD_PRTSCOMB2	1.579	0.163	9.690***	0.711	0.506
Living Environment	— > Capabilities	0.338	0.049	6.848***	0.399	0.925
	Social space	0.473	0.073	6.462***	0.348	0.720
	MAINT_HUS2	1			0.390	0.152
	BULD_TYP2	5.251	0.193	13.050***	0.833	0.694
	EDU_INVAV DJN2	18.144	1.644	11.037***	0.631	0.398
	CULT_per_CAP	112.174	10.12	11.084***	0.639	0.408
Social Space	— > Capabilities	0.432	0.041	10.580***	0.692	0.925
	Economic capital and its enhancing competence	1			0.840	0.888
	Neighborhood cohesion and its social support	0.414	0.086	4.889***	0.203	0.097
	Institutional-symbolic cultural capital	2.18	0.146	14.952***	0.643	0.414
	Cultural and social capital enhances fostering inputs	0.532	0.044	12.050***	0.671	0.450
	Embodied cultural capital	1.400	0.111	12.050***	0.528	0.279
Economic capital and its enhancing competence	— > CONFR	1			0.644	0.415
	Engl	1.538	0.079	19.412***	0.695	0.483
	INC_HLD2	1.464	0.070	21.000***	0.779	0.607
	STUS_JOBUN2	1.341	0.094	14.327***	0.493	0.243
	CAR_PVRVCD	0.558	0.032	17.399***	0.616	0.379
Neighborhood cohesion and its social support	— > NEIG_WTCH	1			0.668	0.447
	NEIB_HLP	0.998	0.051	19.040***	0.795	0.632
	NEIB_VLU	0.736	0.041	17.766***	0.671	0.451
	NEIG_RLTN	0.471	0.027	17.489***	0.658	0.432
Institutional-symbolic cultural capital	— > COJ_UNIGRPRD	1			0.890	0.793
	ACDM_CONJ	0.959	0.019	51.625***	0.955	0.912
	DIPLM_RNK	0.630	0.013	48.356***	0.926	0.857
Input directed to enhance cultural capital	— > CONS_OPRA	1			0.590	0.348
	MUSM	1.633	0.099	16.430***	0.777	0.604
	THATR	1.465	0.095	15.459***	0.664	0.441
Embodied culture capital	— > PopScn_BK	1			0.822	0.675
	Bigrf_BK	1.23	0.036	34.408***	0.892	0.796
	Romns_BK	1.154	0.037	31.532***	0.835	0.696
	BKNO_HDCAT	0.55	0.019	29.382***	0.793	0.629
Capabilities	— > Functioning	1.588	0.149	10.656***	0.505	0.320
	PLWK_INOT	1			0.448	0.201
	CHFND_UNV	2.521	0.193	13.050***	0.654	0.428
	HSMOV_POS	2.079	0.179	11.642***	0.517	0.268
	CNJB_FNDJN2	0.731	0.072	10.204***	0.416	0.173
	JBCNG_JN2	0.432	0.054	8.072***	0.301	0.090
Functioning	— > Social space	0.066	0.020	3.390***	0.130	0.720
Living Environment	< - > Habitus background	0.173***				

*** $p \leq 0.001$.

¹ *Critical-Ratio* (C.R.) The statistical significance tests for the preparation of estimates (regression coefficients). In this sense, estimated C.R. is equivalent meaning to ordinary regression t statistic.

² SMC (Squared Multiple Correlation) is the percentage of variance explained estimated in the explained variable by its predictive variables (Garson, 2009).

fulfillment, respect and self-esteem, and flourish in the social space. The concept of 'functioning' referred to the social field of employment as a sole variable, which is defined in the study as the household heads' job's prestige (i.e. OCCU_PRSTG3)⁹.

Latent variables or concepts represented in the estimated model as follows:

(1) The SEM model confirmed five concepts previously derived from employing the EFA procedure. It included 19 variables that

⁹ The relationship between job status and person's abilities are discussed in Scott (1996).

measured capital forms (observed variables). These variables served as independent endogenous variables underlying the social space concept in the study area.

(2) In order to confirm the first research hypothesis, we utilized a Second-Order Factor Analysis that defined an additional latent concept: the social space. This new concept was comprised of the first-order constructs (Koufteros et al., 2009; Garver and Mentzer, 1999). The concept of the social space acts here as an explanatory variable to the endogenous variables of the different latent concepts representing the capital forms. According to the results, the social space incorporates the above five concepts of capital forms and thereby further confirms the first research hypothesis regarding the existence of a complex social space in the study area.

The social space concept is an exogenous variable that predicts the individual's capabilities. At the same time, it serves, as suggested by the conceptual framework, as an endogenous dependent variable associated with three concepts: habitus, living environment and the individual's functioning in a given social field.

- (3) A concept that defines the individual's habitus background and is used as an exogenous explanatory variable for the capital structure of the social space.
- (4) The spatial dimension of the living environment, a concept explaining capabilities through its effect on the (intermediary) social space.
- (5) The individual's capabilities concept served as a dependent endogenous variable for the social space concept and as an exogenous predictor variable of the individual's functioning in an 'employment field' (i.e., 'job prestige'). 'Job prestige'¹⁰ is an independent endogenous variable that reflects functioning and consists of a feedback loop, making it an exogenous variable that affects the position of the household heads within the social space (Fig. 2).

The model's goodness-of-fit meets the required criteria (Fig. 2). The finding shows that three of the four fit indices—CFI (Comparative Fit Index), GFI (Goodness of Fit Index), TLI (Tucker-Lewis Index)—fulfill the required condition (> 0.9) (Hair et al., 1998). The NFI (Non-normed Fit Index) almost exhibits the required value (0.892). The lack of the RMSEA (Root Mean Square Error Approximation) fit index, though, meets the required condition (< 0.06) (Belasco, 2010). The χ^2 value is significant, and CMIN/df, which represents the normalized level of χ^2 , is equal to 4 (χ^2 value divided by the number of degrees of freedom). This result, together with the other indices, shows a good match between the theoretical model and the empirical data. In general, the results obtained showed that the hypothesized causal connections (model paths) are statistically significant at the 0.01 level (Table 3). Thus, the model closely matches the conceptual framework and thereby expresses the relationships associated with it.

The social space is explained in the model by the predictor variables (habitus background and the living environment) and by the feedback from the individual's functioning variable. It reveals that the position of a person in the class structure of the region is more related to the accumulation of economic and cultural capital, and less to the social one. Accordingly, cultural capital has a dominant influence in defining the class stratification of the examined area. The concept associated with economic capital ('economic capital & competence') is also highly predictive. But within this concept, it also found that cultural indices are dominant, a finding that is not surprising given the relationship between economic capital and cultural capital, on the creation and reproduction of social stratification patterns in liberal democratic societies. Conversely, the concept associated with social capital ('Neighborhood cohesion and its social support') was found to have a weaker explanatory and predictive capacity, relative to other capital forms.

The social space concept is positively and significantly related to the capabilities, given the habitus background offered. The variables that constitute the habitus in the offered operationalization manifest contextual conditions during childhood, as family structure and the general environment in which a person is brought up. The nexus between parental education, class habitus and offspring attainments is well established (for example see: Lee & Bowen, 2006; Gaddis, 2018). Ethnic

¹⁰ Two-Step Cluster Analysis assisted in building 'job prestige'. This variable is constituted from four variables: the need for an academic degree in a current job position, managing functions in a current job position, numbers of employees being managed under a current job position, and the number of cars provided to the employee by a workplace. For further details on the various variables used to construct the variable, see Appendix B.

origin also represents a person's habitus, as habitus is a product of socialization, but also a product of necessary modifications made by his or her experiences of the world (Bodovski, 2014; Culley, 2006). In Israel, for example, there is a direct linkage between a person's ethnic origin, parental education, and class identity where on the one pole of the continuum, European origin (i.e., Ashkenazim) constitutes the social elites, while on the other pole, ethnic minorities – both Jewish (e.g., Mizrahim) and non-Jewish (Arabs)—are associated with the working-class, representing impoverished and disadvantaged communities (Semyonov et al. 2016; Semyonov and Lewin-Epstein, 2017; Almog, 2004).

In the model (Fig. 2 and Table 3), the capabilities concept is related to the individual's job's prestige in the person's field of employment ('functioning'), so that a greater accumulation of capital significantly increases the individual's capabilities in various economic fields (such as the ability to obtain an accessible and satisfying job, to obtain satisfactory housing, and to finance higher education for the next generation), and thereby significantly predicting 'functioning' in the 'field' of employment. This result confirms the second research hypothesis regarding the effect of social space. Capital accumulation seems to be shaping a person's liberties (i.e. capabilities), and enable the individual to fulfill life aspirations as reflected in the concept of 'functionings'.

The living environment concept in the model is also directly related positively and significantly to the individual's capabilities (Table 3). The living environment predicts a person's capabilities and positively associates with them. Enhanced capabilities relate to a living environment that tends to a relatively new built fabric, high level of maintenance, detached housing and large acreage. Subsequently, the results then show that prestigious jobs are possessed by those who live in municipalities that adopt policies that further encourage literacy and consumption of cultural services.

Their soaring number notwithstanding, the paths' estimation in the model clearly shows that the social space, given the influence of the habitus background, is better than the living environment at predicting an individual's capabilities (and through them an individual's functioning) (Table 3). The gap here between both concepts in the statistical model is almost double (Table 3, standardized regression weight). This is not surprising, since the living environment, in accordance to Israel and Frenkel theory, reflects the class structure of the social space, which affects the life-chances of a person. That is, the impact of the living environment on the individual's capabilities is not only direct but also indirect and influenced by the characteristics of the compound of capital forms that the individual possesses. Thus, the social space is used as an intermediary between the living environment and the individual's ability to function in a given social 'field,' or in other words, the individual's ability to be exposed to and to realize life chances. This finding fully confirms the study's third research hypothesis, showing that a person can improve his 'capabilities' and hence 'functionings', by means of the inputs that nurture his living environment (the built and the political). Nevertheless, this enrichment according to the results is inevitably confined by his or her position in the social space.

Finally, the main normative argument of the inspected theory implied how achieving equal 'functionings' depends in his or her exposure to equal 'capabilities' (or freedoms). The background factors that influence the individual's life chances, the living environment and the social space and habitus background, have a positive and statistically significant relationship with the individual's capabilities ($R^2 = 0.925$, $p < 0.001$), explaining 92.5% of the latest variance (Table 3 and Fig. 2). The ability of these background factors to explain the individual's functioning in a field of employment (through the mediation of the capabilities concept) is lower but sufficiently significant ($R^2 = 0.320$, $p < 0.001$), thus confirming the fourth research hypothesis. "Capabilities" accordingly are fully mediating between social space and the living environment, and the "functioning" of a person. Concomitantly, the model shows that developing equal liberties seem to be necessary for occupying significant social positions, whereas

improved “functioning” in the field of employment reinforces the accumulation of capital forms that define a person’s location in the class structure of the region, thus shaping the context in which the next generation is raised. A test of a path effect (returns) between the individual’s ‘functioning’ and the social space concept found it to be statistically significant and positive (C.R. = 3.39, $p < 0.001$) (Table 3). This result confirms the fifth research hypothesis that an augmented exposure to life chances intensifies the scope and range of capital forms held by the individual and may in the future improve the person’s social status and, hence, ‘capabilities’.

7. Conclusion

The current study presents an initial endeavor to bridge the philosophical concept of justice and empirical measures of inequality, by utilizing Israel and Frenkel (2018) conceptual framework. Its usage further connects the *ought to be* (*thinking normatively*) with the *what is* (*thinking positively*). As inequality increases due to uneven economic growth and distribution (Lang and Gormar, 2019; Wei, 2015; Stiglitz, 2012; Piketty, 2014), the importance of this bridge between the two perspectives grows. We believe that the operationalization of Israel and Frenkel’s (2018) proposed framework enables us to broaden the contemporary notions that have usually been employed in studies exploring spatial equity.

The theoretical framework suggests that a person’s capabilities are determined by the conditions he or she has faced based on socio-spatial structures and personal characteristics (i.e. living environment, habitus, and capital forms). These conditions may improve or impair a person’s functioning within different social fields. The successful estimation of the statistical model using SEM method empirically validates the proposed relationships in the conceptual framework. The results show that the interrelationship between the social space and the living environment influence the creation of a person’s capabilities and subsequently functioning. As such, the study carries several benefits.

The examination of Israel’s Sharon region provides an empirical demonstration of full possible implementation of the suggested framework. Its operationalization allows for applying it in future endeavors that strive to understand what normative implications spatial development carry when relating to the social space and built environment of a place. The use of different indices to gauge their manifestation promotes the measurement of social spaces, built environments or life chances, and multidimensional relationships with each other. Additional implementations could be further explored within different spatial scales, thematic fields of interest, and methodologies within the social sciences. Those future endeavors could provide a robust philosophical framework for quantitatively-determined indices (demographic, income, unemployment, morbidity, etc.) that establish a normative context for analysis as well as qualitative inspections that further illuminate the theory’s possible applications.

Moreover, the confirmation of Israel and Frenkel’s framework is consistent with work that explores interconnections between capitalism and neoliberalism on the one hand, and the harm that an environment can do to human welfare on the other (Krellenberg et al. 2017; Dorling, 2010; Simandan, 2011). The framework, as well as the methods implemented, can be used as a basis for creating public policy to improve human welfare and mitigate potential damage done by places which “not only ...fail to give people a second chance (exactng environments), but ... also deprive them of their first chance, namely that of trying to learn the *actual* rules of the game (wicked environments)’ (Simandan, 2011, p. 384). According to research on distribution of wealth in developed economies, economic growth is unequally distributed (Dorling, 2010; Piketty, 2014), diminishing the social status of many of society’s members (Stiglitz et al., 2009). Enlarging the tools that utilize to measure a place’s welfare, as the current study strives for (such as in a regional scale, or alternatively the urban scale), will contribute to the study of well-being under spatial studies.

Today, many public policies intended to promote economic growth ignore the overall contexts in which people live (Valler and Wood, 2010). This reduces some people’s ability to benefit from development efforts directed at economic growth (Dorling, 2012). A more holistic view would examine the social space of a place, given the role of this element in contributing to or hampering its welfare. The use of Israel and Frenkel’s framework can facilitate understanding of local social, political and organizational abilities and conditions among decision makers, planners and practitioners when adopting public policy aimed at promoting, for example, a place’s development and its economic growth (Frenkel and Porat, 2017).

Empirically testing a theory such as that of Israel and Frenkel poses a challenge, as capital resources, habitus, capabilities, and functioning are abstract terms without a clear translation into measurable concepts. For example, the tested variables do not relate (at least not directly) to varying forms of injustices, and thus variegated capabilities (e.g. avoidable human suffering, impingement of mental well-being, etc.), whereas it is not possible to determine the exactly cultural and social capital of a specific population or place. Any attempt to measure these concepts involves some reduction in the validity of the theory, and therefore requires caution. Future tests may address other concepts and methods that further elaborate the theory’s operationalization and thus improve normative understandings that the theory strives to promote.

CRedit authorship contribution statement

Emil Israel: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Software, Validation, Visualization, Writing - original draft, Writing - review & editing. **Amnon Frenkel:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Writing - original draft, Writing - review & editing.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.geoforum.2019.12.017>.

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