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Mastery and social position: factors in negotiating urban social resilience

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The pragmatic view of urban resilience has re-framed long-lasting social issues as chronic social stresses that can be addressed by building strong social networks in urban environments. This practice, inspired by disaster management, is problematic because it pre-supposes a community whose members share the same fate. Conversely, social vulnerability emerges from the asymmetrical distribution of agency in the social order, so that a low social position jeopardises life chances. Hence, we argue that the social dimension in urban resilience should focus on the role of social positions and individuals' agentic predispositions to control their life chances if faced with adversity (i.e., their Mastery). Using structural equation modelling and data from a 2018 public Dutch survey, we found that when mediated by Mastery, socioeconomic status drives the individual's positive adaptation behaviour. In contrast, Interaction with Primary Networks, Neighbourhood Cohesion, and Membership in Voluntary Associations have an unsubstantial relationship to positive adaptation. These empirical results suggest that Mastery is crucial for people's resilience in their daily life. In view of the recent shift towards negotiation in resilience thinking, we propose Mastery as the guiding factor for transforming arrangements that shape social positions.

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Introduction

Lately, the resilience paradigm has been extended far beyond its inspiration in physics, engineering, ecology, and disaster management to include the difficulties of daily life and chronic social stresses (Olsson et al., 2015). In particular, urban social resilience, inspired by disaster management, postulates strong local ties as a kind of capital that enables people to cope with the persistent social hardships experienced in cities (Martin-Breen and Anderies, 2011). Neighbourhood design and the promotion of voluntary associations are seen as instruments for supporting successful responses to adversarial circumstances caused by chronic social stress (Zautra et al., 2010; Larimian et al., 2020). This pragmatic view prioritises intervention-target factors and disregards social asymmetries that might limit people's agency, under the expectation that strong local ties can compensate for lower social position (Bottrell, 2009).

Accordingly, advocates for urban social resilience have advised integrating and monitoring neighbourhood cohesion and civil society associativity as intangible assets for dealing with social marginality (ARUP, 2014). For instance, resilience plans for Rotterdam, New York, and San Francisco sponsored by the 100 Resilient Cities (100RC) project included social cohesion as a condition for social resilience, emphasising the need for strong social networks to successfully navigate through the risks of poverty, inequality, and exclusion (Spaans and Waterhout, 2017; Fastiggi et al., 2020; Grove et al., 2020; Silva et al., 2022). The idea that strong social cohesion operates as social capital to deal with marginality at the neighbourhood level remains central in the post-100RC policy discourse and practice in cities such as Rotterdam and Vejle (Network, 2022).

The instrumental view of social capital could work well in resilience for disaster management, where strong social ties enable collective actions that reduce group vulnerability in the face of a hazard (Aldrich, 2012; Mahajan et al., 2022). However, disaster management presupposes, on the one hand, an external hazard in the form of a pulse event and, on the other hand, a clear distinction between such pulse events and the level of internal vulnerability of a community which shares the same fate (Norris et al., 2008). Such views and assumptions most likely do not hold when the asymmetric nature of social order has to be dealt with, and where vulnerability is mainly instantiated in an ongoing disadvantageous social position (Giddens, 1984). A person's life chances depend on the predispositions and resources their place in the social hierarchy affords (Bourdieu, 1977). Thus, disregarding the importance of the social context and positions as distal factors obscures the actual circumstances that shape people's vulnerability (Bottrell, 2009).

We argue that what matters when it comes to the hardships of living in society are social structure and agency. To substantiate our position, we critically assess the instrumental claim that strong social ties operate as a sort of asset that leads to positive adaptation, irrespective of the social position and agency. If one argues that strong social ties guide urban social resilience, an empirical connection between social ties and positive adaptative behaviour ought to be demonstrable, regardless of the social position. Such an observed connection would pragmatically justify an emphasis on the social assets at hand for building resilience in facing chronic social issues, even without fully considering the role of social positions and agency. The former shapes the context of vulnerability and the latter is predisposed by those circumstances and at the same time opens up opportunities to change them (Archer, 1995). Therefore, our article examines the expected resilience returns of strong social ties, together with the capabilities derived from a person's social position, which becomes manifest through a sense of "mastery".

Mastery refers to the embodied agentic predispositions people have in controlling their life chances when confronted with adversity (Pearlin and Schooler, 1978). This feature was found to mediate the impact of social conditions and resources on positive adaptation as a resilient behavioural outcome (Walker and Peterson, 2018; Huh et al., 2023; Pudrovska et al., 2005). We suggest that the dispositional nature of the mastery construct emphasises agency in a way of contributing to the increasingly recognised need to bring transformative potential to light in urban resilience approaches (Elmqvist et al., 2019). Therefore, we empirically evaluate a model that postulates the effects of social ties (as "assets") and socioeconomic status (as a proxy of social position) on individual positive adaptation mediated by mastery. In doing so, we consider the following three social assets as proxies for instrumental social capital: (i) interaction with primary connections, (ii) neighbourhood cohesion, and (iii) membership in voluntary associations.

To test our research model, we employed structural equation modelling and analysed data from a public survey conducted by the Central Office of Statistics in the Netherlands. The survey, which involved 1,915 participants, aimed to capture the perceptions urban inhabitants across the Netherlands have of their life situation in 2018. The results indicate that socio-economic status strongly influences individual positive adaptation through mastery. In contrast, interaction with primary connections, neighbourhood cohesion, and membership in voluntary associations show an unsubstantial or statistically insignificant impact on mastery and individual positive adaptation.

We conclude that strong "social assets" should not be regarded as *the* critical factors in fostering resilience regarding the hardship of living in society, and that one should be cautious about a-priori endorsement of the instrumental view of resilience thinking. Put differently, we challenge the technocratic approaches to urban resilience that pragmatically focus on the assumed pay-off of strong cohesion in the living environment while failing to capture the nature of chronic social stress. Our results expand previous research by emphasising the need to consider people's agency in relation to social and power asymmetries in the urban resilience discourse (Béné et al., 2014; Roberts et al., 2020; Chandler et al., 2020; Meerow and Newell, 2019). We discuss how mastery mediates between social position and positive adaptation, which can become a meaningful indicator of the potential for social transformation, in line with the current shift from success-oriented to negotiation-oriented approaches to urban resilience (Doorn and Copeland, forthcoming; Roberts et al., 2020).

The social resilience metaphor from disaster management to urban governance

The concept of "urban resilience" is fluid, marked by an exchange of ideas between different scientific fields, practitioners, planners, and policymakers (Amirzadeh et al., 2022; Sanchez et al., 2018; Olsson et al., 2015). One of the most influential conceptualisations applied in urban policy has a technocratic and pragmatic orientation, i.e., it refers to the "capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow regardless of the kinds of chronic stress and acute shocks they experience" (Spaans and Waterhout, 2017, p. 109). This conceptualisation is inspired by the successful application of the resilience metaphor in engineering, which includes "community resilience" as the social dimension of resilience regarding disaster management (Martin-Breen and Anderies, 2011; ARUP, 2014).

In disaster management, community resilience refers to "the process linking a network of adaptive capacities (resources with

dynamic attributes) to adaptation after a disturbance or adversity" (Norris et al., 2008, p. 127). Community is emphasised because a collection of resilient individuals does not guarantee the readiness and response of a group whose members share the same fate in being threatened by a pulse event. Rather, managing an external pulse event depends on the dynamic process by which social capital interplays with other resources and processes such as economic development, community competence, communication and distributing information. Social capital structures a loosely coupled organisation built on a network of strong and weak social ties, which fosters a more efficient flow of information, resources, and services that enable rapid response to a pulse event. Additionally, social capital fosters a sense of solidarity and social influence which spreads behaviours appropriate to promoting collective response and healing. Social capital turns into a resilience-resource when it is robust, redundant, or rapidly accessible, thus shaping readiness for response (Norris et al., 2008). Empirical studies have evidenced these aspects of social capital and have also emphasised its pivotal role in preventing and recovering from disasters (Townshend et al., 2015; Mahajan et al., 2022).

The success of resilience thinking in disaster management encouraged the Rockefeller Foundation's 100RC programme to advocate for addressing more complex challenges at the urban level using the same resilience paradigm. Community resilience is thus at the core of the programme's theoretical foundations compiled by Martin-Breen and Anderies (2011). Moreover, these advocators for urban resilience re-introduced social ties as "assets" in the context of urban governance. ARUP (2014), commissioned by the Rockefeller Foundation, translated the theoretical foundations into a resilience framework oriented to practitioners. This framework presents social norms, community and spirit as assets comparable to material assets such as infrastructure. The approach to urban social resilience is, therefore, based on the well-known and instrumental understanding of social capital theory in urban governance (Putnam, 1993; Coleman, 1990), which emphasises the positive functions of social relations (cf., Poder, 2011)[1]. Accordingly, social resilient cities in the 100RC framework are those which can count on a strong and diverse civil space to rebound and grow in spite of stress and shocks, including chronic social stress (Spaans and Waterhout, 2017). Specifically, social cohesion at the neighbourhood level and networks of voluntary associations are seen as crucial resources that support successful responses to many adversarial circumstances including external shock events, as well as slow-onset events, environmental pressures and chronic social problems such as poverty, inequality, and exclusion (Larimian et al., 2020).

The flaws of an instrumental view of social capital for understanding urban daily life

Urban social resilience aims to address social problems such as chronic stressors, typically taking an approach that draws inspiration from disaster management. We argue that a disaster management approach prohibits the adequate handling of social problems experienced in everyday urban life within the frameworks of community resilience and social capital. This is due to the approach resting on two problematic conflations, which makes translating community resilience insights into the context of urban resilience problematic.

First, grounding the social dimension of urban resilience on community resilience builds on the conflation of chronic stress and pulse events. Resilience in disaster management deals mainly with pulse events and, accordingly, it conceptualises the organisational properties of social capital to respond to the urgency of a sudden shock and overcome it. However, urban challenges

include external pulse events (e.g., storms) as well as instances of chronic stress which range from environmental pollution, slow-onset climate hazards, and infrastructure gaps to endemic social problems (Meerow et al., 2016). For example, different to pulse events, coping with chronic stress phenomena does not necessarily demand a rapid flow of resources and activities facilitated by a network of social ties.

Second, and similarly, the label "urban chronic stress" conflates different kinds of stressors and ignores endemic social problems that differ from slow-onset natural hazards. Social problems, for instance, arise from the dynamics of consensual and conflictual relations that shape the asymmetrical distribution of resources and life chances across population segments (Archer, 1995). Conversely, disaster management's conceptualisation of "community" presupposes a coherent collective entity that shares the same values, interests and expectations. Therefore, the dynamics of social conflicts, which are crucial for understanding social issues, are largely irrelevant in disaster management, which focuses on coherent groups whose members share the same fate.

The instrumental view of social capital fits this apolitical conceptualisation of community in disaster management, which overlooks the socio-conflictual and political dimensions associated with endemic social problems. The instrumental perspective defines social capital as the emerging returns from social ties that lead to successful individuals, communities and societies (cf., Poder, 2011). Such a definition reduces social conflicts to harmony deficits that jeopardise the quality of public life, feelings of commitment, trust and collective action (cf., Tolsma et al., 2009). This strong focus on harmony overlooks the fact that social tensions arise from the structure of social order and the relations that shape urban life (Morrow, 1999). Therefore, social capital elides the importance of a social group's interest in maintaining the position they have in society, given that this predisposes them toward maintaining or changing the *status quo* (Archer, 1995). Consequently, social capital theory "resolves" social tension by encouraging trust, reciprocity, and engagement, without seriously considering the objective social asymmetries that predispose different social groups to cooperate, make concessions or struggle.

Social capital theory marginally recognises the problem of social asymmetry by distinguishing between "bonding social capital" and "bridging social capital" (Putnam, 2000). While the former refers to relationships between individuals with similar characteristics, the latter refers to relationships between individuals with different social backgrounds. Social asymmetry refers to the dark side of bonding social capital, which can foster monolithic identities, closure, and attachment to internal interests (Aldrich, 2012). This inward-facing focus of bonding social capital jeopardises the overall cohesion between different segments of society. Consequently, urban social resilience that appeals to social capital, reifies the expectation that the right combination of bonding social capital and bridging social capital contributes to the collective efficacy and inclusiveness required for suitably inhabitable cities (Blokland and Noordhoff, 2008). The assumption is that such a combination can be designed by urban interventions that strengthen bonds between similar people and simultaneously build bridges between different layers of society. These bridges are expected to harmonise conflicting demands, identities and interests to ensure the public and common good (Feinberg et al., 2023).

In practice, however, structural obstacles prevent marginalised groups from successfully bridging social divisions (Moore et al., 2009). Moreover, bridging class and racial boundaries might not lead to harmonisation; they could even amplify hierarchies (Leonard, 2004), for example, by fostering middle-class newcomers' claims of having moral rights in previously working-class neighbourhoods (Savage et al., 2006). The plea for bridging social

capital indeed even mystifies the so-called "weak ties" that bridge people in different social positions: "these bridges seem to be located outside power and exploitation, and outside values and norms as if all that it takes for these ties to do their magical work of leverage is [for them to be] weak" (Blokland and Noordhoff, 2008, p. 109). Harmonic and diverse ties operate as "something" that unsuccessful individuals and communities lack (Morrow, 1999), which resembles the grounding normativity of resilience gained by engineering (Doorn, 2020). Thus, bridging social capital in practice might not redress the dark side of social capital as the urban social resilience discourse suggests.

In summary, urban social resilience inspired by disaster management draws on a perspective of social capital which overlooks critical factors that account for social dynamics, including power, agency, normativity and legitimacy (Béné et al., 2014). This approach fits the instrumental tradition of mainstream resilience thinking, which prioritises intervention-target factors and disregards structural conditions that limit people's agency (Roberts et al., 2020). However, the social capital theory suffers from a "deficit syndrome" (Morrow, 1999, p. 760), which has even been declared outdated due to its poor explanatory power regarding historical social processes (Ferragina and Arrigoni, 2016). That is, it assumes a functioning social order as a priori rather than explaining why specific social configurations stabilise or change in the face of social and political conflicts. Consequently, critical scholars note that these "apolitical" positions conceal an endorsement of market-oriented pluralism, either as an a priori position or as a political project (Kaika, 2017). If urban social resilience is built on an instrumental view of social capital theory, it neglects the circumstances that give rise to the need for resilience in the first place and prevents a critical examination of the *status quo* that puts individuals in vulnerable positions (Ranganathan and Bratman, 2021).

Looking at "social positions" through "Mastery" for urban social resilience

Social vulnerability in the urban setting refers to a more or less hazardous circumstance situated in the structure of the social order (Giddens, 1984); an enduring and involuntary initial position materialises within the set of relations and directs the asymmetrical distribution of social resources (Archer, 1995). In such a setting, where hardship is inherent to living in society, there is no clear-cut distinction between hazard, exposure and vulnerability. Conversely, how groups are positioned in a social order is a potential source of chronic stress, as well as a resource for coping with adversity (Ennis et al., 2000). Therefore, it is a good idea to assess the connection between social position in the urban context, to consider resilience as a process by which people cope with, adapt to, and positively transform their positions in the face of ongoing and repeated demands that threaten to exceed their capabilities for shaping their own lives (Schetter and Dolbier, 2011).

We posit that the interface between an individual's social position and their resilient behaviour lies in embodied dispositions, which are shaped by social structures and can either enhance or restrict their control over their life chances (Bourdieu, 1977). The disposition for dealing with uncertainty is known as mastery: "the extent to which one regards one's life chances as being under one's own control in contrast to being fatalistically ruled" (Pearlin and Schooler, 1978, p. 5). Mastery embodies a forward-looking disposition, which focuses on agency, whereby individuals aim to shape and enhance the quality of their life experiences, ultimately making life worth living (Vella-Brodrick et al., 2023). In other words, mastery enables individuals to believe in their power to influence their future (Zanbar and

Nouman, 2021). Mastery is inherently oriented towards the future, encompassing undefined but optimistic transformative possibilities, including individuals' ability to reject identities others impose on them, to ultimately challenge the status quo (Brown and Westaway, 2011).

One way to integrate transformative potentialities in negotiations on urban social resilience is to look at the role of social positions and social resources through mastery, which goes beyond recovery and adaptation. Roberts et al. (2020) coined the concept "negotiated resilience" based on a divergent resilience planning path in Durban (South Africa), different from the more technocratic 100RC global programme. Negotiated resilience explicates the political and normative dimensions, thereby focusing on the opportunity that resilience offers for articulating local agency, through the voices of those dissatisfied with the current state of social affairs. In other contexts, historically marginalised groups seized the resilience planning process as a space to renegotiate urban governance and to vindicate ad-hoc formulations of justice and equity in resilience planning (Grove et al., 2020; Meerow et al., 2019). A similar turn resonates with ethical approaches to complex socio-technical and environmental systems, according to which responsibility arrangements must be reconfigured by "engaging in ongoing deliberation about the context of vulnerabilities" (Doorn and Copeland, forthcoming). Negotiated resilience, therefore, presupposes that social transformation depends on the redistribution of agency in the arrangement of structural relations that give rise to individual vulnerability (Chandler et al., 2020).

The turn to negotiated resilience demonstrates that social structures, disregarded as a distant factor in pragmatic resilience thinking, have the potential to be considerably more significant in guiding the resilience-building process (Bottrell, 2009). In this context, our research question is twofold: To what extent do individuals' adaptive behaviours stem from an situated predisposition to feel confident they can shape their own life chances? What are the positive adaptation returns of social ties at the urban level, considering how social position influences individuals' disposition to shape their own life chances?

Conceptual model: social resources, mastery and positive adaptation

We propose a conceptual model that views resilience in conditions of chronic social stress as a process through which individuals cope with, adapt to, and positively transform their positions in the face of ongoing and repeated demands (Schetter and Dolbier, 2011). This behavioural mechanism involves mobilising both internal embodied dispositions and external social resources in response to stressors that challenge individuals' capabilities to lead fulfilling lives (Hobfoll, 2002). At the core of our model is the concept of "mastery" as defined above: it represents a forward-looking disposition that empowers individuals to believe in their capacity to shape their own future. "Positive adaptation" is an outcome accounted for by the self-reported behaviour of coping with adversity and moving on in the face of continuous and repeated stressors. Therefore, when positive adaptation is driven by mastery, there is potential for transformation.

We anticipate that mastery will mediate the impact of socio-economic status, as a proxy of a person's social position, on positive adaptation. Socio-economic status operates simultaneously as a social resource for positive adaptation (Schetter and Dolbier, 2011) and as a source of chronic social stress (Ennis et al., 2000). Our model incorporates three concepts referring to strong social ties at the local level, namely "interaction with primary networks", "neighbourhood cohesion", and "voluntary associativity". These concepts capture social resources that potentially foster mastery and
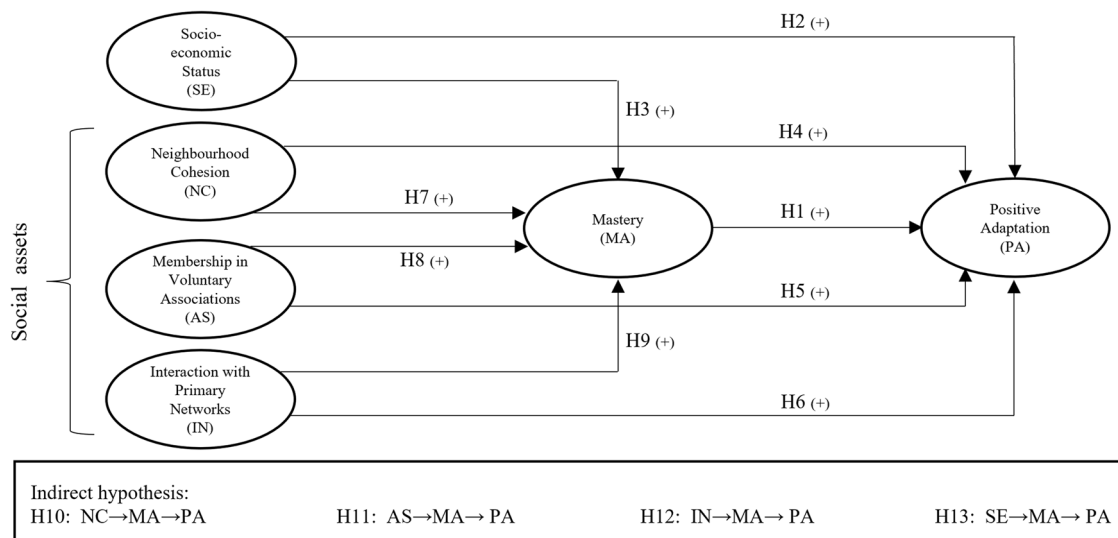
Fig. 1 Conceptual model. The research model tests the extent to which Mastery (MA) mediates the positive effect of Socioeconomic Status (SE) and Social Assets on Positive Adaptation (PA). Social Assets include Neighbourhood Cohesion (NC), Membership in Voluntary Associations (AS), and Interaction with Primary Networks (IN).

positive adaptation. Interaction between resources implies that positive adaptive behaviours are integrated; i.e., mastery is influenced by social capital resources and the advantages social status holds (Walker and Peterson, 2018). By acknowledging the dual role of social position as a potential source of chronic stress and as a resource for positive adaptation, this model allows us to examine the relationships between strong social ties at the local level, mastery, and positive adaptation. Figure 1 gives a visual representation of our conceptual model.

The expectation that one can influence the environment increases responses aimed at changing the situation in which the challenging experience occurs (Pearlin and Schooler, 1978). Positive adaptation built on mastery differs from other coping mechanisms, such as selectively ignoring a given stress, looking for a "silver lining" or accommodating existing psychological stress (Zanbar and Nouman, 2021). Mastery strongly predicts individual functionality (Skinner, 1996). One finds it in various uneasy circumstances ranging from minor hassles to major tragedies (Bandura et al., 1999). Evidence suggests that mastery buffers anxiety (Gallagher et al., 2011). It is closely related to other concepts such as self-efficacy, locus of internal control, and self-management. Further, research in the Netherlands suggests that self-management predicts positive adaptation (Doornenbal et al., 2022). Accordingly, positive adaptation behaviour is positively associated with mastery as the capacity to control circumstances affecting one's life and enabling positive adaptation in the face of adversity. Thus, we posit:

H1: Mastery positively affects positive adaptation.

Chronic deprivation of social resources is often studied through the lens of socio-economic status. Socio-economic status refers to the position an individual holds within a hierarchical structure (Kahl and Davis, 1955), which provides access to material, cultural and social resources (Hobfoll, 2002). In considering social resilience, socio-economic status plays a dual role in accounting for chronic stress as well as providing resources for coping with adversity. On the one hand, a chronic loss condition (e.g., poverty) leads to a direct negative experience of lacking resources, as well as being fertile ground for further acute material loss (Ennis et al., 2000). On the other hand, a high socio-economic status holds advantages for individuals facing uncertainties (Marmot and Fuhrer, 2004; Gallo et al., 2005). Moreover, research has consistently shown that personal control and

resilience behaviours are influenced by socio-economic status (Walker and Peterson, 2018). Specifically, there is a relationship between low income and the disposition that empowers individuals' belief in their capacity to influence their own future (Lachman and Weaver, 1998). Accordingly, we hypothesise:

H2: Socio-economic status positively affects positive adaptation.

H3: Socio-economic status positively affects mastery.

Social ties are seen as resources that are accessible to individuals in urban areas (Zanbar and Nouman, 2021; Larimian et al., 2020) and which support successful responses to adverse circumstances (Thoits, 2011). The residential environment constitutes a major sociability setting, where harmonic relations can establish bonds between people with similar cultural backgrounds, thus contributing to well-being and the ability to deal with psychological stress (Forrest and Kearns, 2001;, Rios et al., 2011; Zautra et al., 2010). Civil society associations can build bridges between different societal groups, thereby increasing individuals' chances to access good contacts beyond the neighbourhood (Ferlander, 2007; Putnam, 2000). Researchers have shown that voluntary association membership positively affects emotional distress and develops coping mechanisms (Berkman et al., 2000). Social cohesion at the neighbourhood level and voluntary association membership complement the expected positive adaptation returns from interacting with primary networks, which are possibly the most salient support in adversity (Sarason et al., 1986). Having close friends and family is frequently associated with well-being and health (Hobfoll, 2002). Such relationships play a direct and indirect role in the recovery of people facing crises (Zautra et al., 2010). Accordingly, we posit:

H4: Neighbourhood cohesion positively affects positive adaptation.

H5: Voluntary association membership positively affects positive adaptation.

H6: Interaction with primary networks positively affects positive adaptation.

Research in positive psychology shows that "social connection" and "agency" can be considered as antecedents of well-being, and that agency predicts future social connection, but the reverse is not necessarily the case (Vella-Brodrick et al., 2023). Further, neighbourhood social capital has been shown to buffer

female caregivers' ability to control their personal life (Carpiano and Kimbro, 2012). Such insights are consistent with evidence about the dark side of social capital which can hinder the possibility of agency bringing individual and social transformation (Aldrich, 2012, Blokland and Noordhoff, 2008). Therefore, research clarifies that the positive link between social ties and mastery lies on the opportunities that social support offers for skills development (Veenstra et al., 2005) and resource acquisition (Uchino, 2004). Additionally, mastery is known to be influenced by exposure to family members (Booker and Ell, 2022) and close friends (Schetter and Dolbier, 2011). Accordingly, we posit:

H7: Neighbourhood cohesion positively affects mastery.

H8: Voluntary association membership positively affects mastery.

H9: Interaction with primary networks positively affects mastery.

Psychological and social resources for positive adaptation operate in tandem insofar as the interaction between biological, psychological, and social factors helps individuals to cope with life threats (Holahan and Moos, 1991). In this context, community-level resources and the advantages social status grants, positively influence mastery (Walker and Peterson, 2018). Consequently, mastery often plays a mediating role between social resources, specific behaviours and well-being. On the one hand, mastery has been shown to mediate the positive impact of social interaction and social ties on well-being (Kesavayuth et al., 2022), psychological well-being (Zhang et al., 2022), and lower levels of fear, threat and worry (Huh et al., 2023). On the other hand, empirical studies have shown that mastery mediates the positive effect of socio-economic status on individual physical, social and psychological functions (Barbareschi et al., 2008), health status (Kan et al., 2015; Pudrovska et al., 2005), and mental health (Crowe et al., 2016). Consequently, we posit the following mediation hypotheses:

H10: Mastery mediates the relationship between neighbourhood cohesion and positive adaptation.

H11: Mastery mediates the relationship between voluntary association membership and positive adaptation.

H12: Mastery mediates the relationship between interaction with primary networks and positive adaptation.

H13: Mastery mediates the relationship between socio-economic status and positive adaptation.

Research design and method

The empirical setup for our study is in the Netherlands, where practice and experts have promoted social resilience among people facing daily hardship in urban areas (Spaans and Waterhout, 2017). Also, scientific discourse in the Netherlands has questioned social capital theory being enthusiastically endorsed for its contribution to the collective efficacy which is needed for liveable neighbourhoods, cities, and societies (Blokland and Noordhoff, 2008). Our statistical model is estimated by consistent partial least squares (PLSc, Dijkstra and Henseler, 2015a) as implemented in the R package cSEM (Rademaker and Schuberth, 2020). For statistical inference, we relied on percentile bootstrap confidence intervals based on 499 bootstrap runs (Aguirre-Urreta and Rönkkö, 2018). We deliberately opted for PLSc since our model contains both latent and emergent variables (Yu et al., 2021; Henseler, 2021). In assessing the model, we follow the guidelines Benitez et al. (2020) proposed.

Data characteristics and sample.

We use data from the Leefsituatie Index (LSI) collected by the Central Office of Statistics in the Netherlands which bi-annually surveys citizens' satisfaction with life. The LSI sample was obtained following a stratified two-step procedure. In the first step, sub-municipalities were selected with probabilities according to their population. Subsequently, in the second step, respondents were randomly sampled from these sub-municipalities. The survey approached only legally registered residents in the Netherlands who are 18 years or older and could show a minimum level of Dutch language proficiency to fill in the LSI questionnaire. For more information on the LSI, the sample selection process and the representativeness of the sample, we refer the interested reader to Coumans and Knops (2019).

For our analysis, we have used the LSI data of 2018 since it is publicly available and controls for the impact of the pandemic, which introduced an external shock to the social fabric in the following years. The original 2018 LSI data contain 2286 responses, from which we used only 2071 that represent those living in urban areas (90,6%). Further, we reviewed the methodological background of the public survey aiming to identify items fitting the domain of our research. Specifically, we noted sets of items that correspond to established behavioural and sociological scales, as given in the next section. Furthermore, the data comprises 156 incomplete cases. Since the share of incomplete cases is below 10%, it can be regarded as acceptable (Hair et al., 1998). To address missing values, we applied both listwise deletion and mean imputation. Since the results were robust, we decided only to report the results based on listwise deletion ($n = 1915$ valid cases)[2].

Concepts and their operationalization.

We operationalized the theoretical concepts of interest in two ways, using the reflective measurement model and the composite model (Yu et al., 2021). Specifically, socio-economic status and social assets, i.e., interaction with primary networks, neighbourhood cohesion, and voluntary association membership, are operationalized through the composite model and thus modelled as emergent variables. In contrast, the reflective measurement model is used to operationalise positive adaptation and mastery, thus they are represented as latent variables in the statistical model.

(NC) Neighbourhood Cohesion is defined following the Dutch Office for Social and Cultural Planning as the extent to which, in behaviour and perception, people express their involvement in social connections in their personal lives, as citizens and as members of a neighbourhood (Schnabel et al., 2008). This definition corresponds with those in the literature that study social ties at the neighbourhood level and assumes that neighbourhood boundaries are defined by local residents themselves (Tran et al., 2020). The concept is modelled as an emergent variable composed of the following statements assessed with Likert scales ranging from 1 (totally disagree) to 5 (totally agree):

- I have a great deal of contact with my immediate neighbours.
- In this neighbourhood, people treat one another agreeably.
- We live in a pleasant neighbourhood with a great deal of closeness.
- People hardly know one another in this neighbourhood.
- I am satisfied with the composition of the population in this neighbourhood.

(AS) Voluntary Association Membership is modelled as an emergent variable composed of nine dichotomic variables as suggested by Paxton (2002), indicating voluntary membership in one of the following associations:

- Singing, music or drama association
- Sports association
- Hobby association
- Political organisation
- Union, employees' or employers' organisation
- Library
- Association with a religious purpose
- Immigrant association or (self) organisation
- Other association(s) or organisation(s)

(IN) Interaction with Primary Networks is modelled as an emergent variable accounting for the frequency of interaction with family and friends following Kloosterman and van Der Houwen (2014). It is composed of the following two variables:

- Frequency of interaction with family ranked as (1) No Family, (2) Rarely or never, (3) Less than once a month, (4) Once a month, (5) Once every two weeks, (6) Once a week or more.
- Frequency of interaction with friends or really good acquaintances ranked as (1) No friends, (2) Rarely or never, (3) Less than once a month, (4) Once a month, (5) Once every two weeks, (6) Once a week or more.

(SE) Socio-economic status is modelled as an emergent variable which includes three indicators accounting for the objective and perceived position of the individual in the existing social order, considering income and education as Kuppuswamy (1981) suggested. It is composed of the following variables:

- Education level scored as (1) Basic instruction, (2) Preparatory secondary vocational and vocational education, (3) Senior general secondary education or pre-university education, (4) College of applied science and bachelor's level, (5) Masters and Doctoral studies.
- Household disposable income, calculated as the annual gross amount minus transfers and taxes, scored as (1) EUR 10,000 or less, (2) EUR 10,000 to EUR 20,000, (3) EUR 20,000 to EUR 30,000, (4) EUR 40,000 to EUR 50,000, (6) EUR 50,000 to EUR 75,000, and (7) EUR 75,000 or more.
- Satisfaction with social status, indicated on a ten-point scale ranking the question: How satisfied are you with your social position? (1: not satisfied at all; 10: very satisfied).

(MA) Mastery is the self-reported personal capacity to control one's life chances instead of being fatalistically ruled, indicated using the scale Pearlin and Schooler (1978) developed. It is modelled as a latent variable measured by the following statements assessed by Likert scales ranging from 1 (totally agree) to 5 (totally disagree):

- I have little control over the things that happen in my life.
- I cannot possibly handle some of my problems.
- There is very little I can do to change important things in my life.
- I often feel helpless when dealing with life problems.
- Sometimes I feel as if I'm simply a plaything in life.

(PA) Positive Adaptation is the self-reported behaviour that refers to bouncing back and going forward in the face of adversity, indicated using the scale Smith et al. (2008) developed. It is modelled as a latent variable measured by the following Likert-scales ranging from 1 (totally disagree) to 5 (totally agree) where * indicates reversed code:

- I tend to bounce back quickly after hard times.
- I find it difficult to cope with or to endure stressful events.*
- I don't need a great deal of time to recover from a stressful event.

- It's hard for me to go on when something bad happens.*
- I usually have trouble getting through difficult times.*
- I tend to take a lot of time to think about how to overcome setbacks in my life.*

Results

The overall fit of the model. We conducted a confirmatory composite and factor analysis to assess the composite and reflective measurement models (Henseler, 2021; Hubona et al., 2021; Jöreskog, 1969; Schuberth et al., 2018). The bootstrap-based test for exact fit indicates a misfit between the model and the data: geodesic distance = 0.0976, $p < 0.01$, and squared Euclidean distance = 0.3900, $p < 0.01$. However, it is well-known that the test for exact model fit is very sensitive for larger sample sizes, such as ours. In contrast, all three fit measures that have been proposed in the partial least squares context indicate that our model fits data reasonably (Schuberth et al., 2023; Schermelleh-Engel et al., 2003): standardised root mean squared residual (SRMR) = 0.0299, normed fit index (NFI) = 0.9146, and goodness-of-fit index (GFI) = 0.9549.

Measurement model. To assess construct reliability, we applied Dijkstra-Henseler's rhoA (Dijkstra and Henseler, 2015b). Table 1(a) shows that for the two latent variables, the reliability estimates exceed the recommended threshold of 0.7. Subsequently, we assessed convergent validity through the average variance extracted (AVE). The AVE for *Positive Adaptation* and *Mastery* is 0.39 and 0.48, respectively, indicating a potential violation. However, the procedure proposed by Sahmer et al. (2006) provided no evidence against convergent validity.[3] Finally, we assessed discriminant validity through the Fornell-Larcker criterion and the heterotrait-monotrait ratio of correlations (HTMT, Henseler et al., 2015), including its enhanced version known as HTMT2 (Roemer et al., 2021). Considering the Fornell-Larcker criterion, the squared correlation between the two latent variables is smaller than the two AVE values, providing no evidence against discriminant validity. Similarly, the values of the HTMT and HTMT2 are 0.5492 and 0.5321, respectively, and thus below the suggested threshold of 0.85 (Franke and Sarstedt, 2019). Additionally, the corresponding one-sided 99% percentile bootstrap confidence intervals (499 bootstrap runs) did not exceed 1, indicating that the two constructs can be statistically differentiated.

To assess the four composite models, we followed the guidelines Benitez et al. (2020) proposed. Specifically, we focussed on the weights and composite loadings, including their significance. Considering *Neighbourhood Cohesion*, three of the five indicators do not significantly contribute to the emergent variable, as Table 1b shows. However, all composite loadings, i.e., the correlation between an indicator and its emergent variable, were positive and significant. Similarly, six of the nine indicators do not significantly contribute to forming *Voluntary Association Membership*, while two of the six indicators also show a non-significant composite loading. Although one could consider dropping these indicators from the model, we decided to keep them to avoid altering the meaning of the emergent variables[4]. Considering *Interaction with Primary Network* and *Socio-economic Status*, all indicator weights and composite loadings showed a positive sign and were significant. Overall, the variance inflation factors (VIFs) of the weights ranged from 1.01 to 2.52, indicating that multicollinearity is not an issue.

Structural model and hypotheses testing. We assessed the structural model and hypotheses. Table 2(a) illustrates our results in the form of standardised coefficients. Considering the direct

Table 1 Measurement model assessment.

(a) Latent variables

	(P_A)	AVE	Item		Loading	95% CI
Positive Adaptation (PA)	0.78	0.39[a]	PA01[c]	I tend to bounce back quickly after hard times	NA	NA
			PA02[+]	I find it difficult to cope with stressful events to endure	0.697	[0.632; 0.755]
			PA03	I don't need much time to recover from a stressful event	0.505	[0.412; 0.587]
			PA04[+]	It's hard for me to go on as something bad happens	0.712	[0.638; 0.780]
			PA05[d]	I usually have little trouble getting through difficult ones times to come	0.448	[0.370; 0.534]
			PA06[+]	I tend to take a lot of time to think about overcoming setbacks in my life	0.721	[0.644; 0.786]
Mastery (MA)	0.84	0.48[b]	ML01[+]	I have little control over the things that happen	0.665	[0.610; 0.711]
			ML02[+]	I can't seem to solve some of my problems	0.536	[0.473; 0.602]
			ML03[+]	It is too little I can do to change important things in my life	0.687	[0.625; 0.738]
			ML04[+]	I often feel helpless when dealing with the problems of life	0.861	[0.827; 0.900]
			ML05[+]	Sometimes I feel like I'm a toy of life	0.679	[0.626; 0.732]

(b) Emergent variables

	Indicator		Loading	95% CI	Weight	95% CI
Neighbourhood Cohesion (NC)	NC01	Contact with immediate neighbours	0.487	[0.223; 0.685]	0.0864	[−0.213; 0.371]
	NC02	People treat each other in a pleasant way	0.859	[0.656; 0.946]	0.7223	[0.398; 0.990]
	NC03	Cozy neighbourhood and togetherness	0.514	[0.237; 0.712]	−0.3975	[−0.800; 0.044]
	NC04[+]	People hardly know each other	0.536	[0.301; 0.717]	0.2385	[−0.086; 0.555]
	NC05	Satisfaction with composition of the neighbourhood	0.791	[0.562; 0.901]	0.5237	[0.230; 0.764]
Voluntary Association Adscription (AS)	AS01	Singing, music, or drama association	0.136	[−0.111; 0.347]	0.0699	[−0.158; 0.286]
	AS02	Sports association	0.769	[0.533; 0.851]	0.7600	[0.537; 0.850]
	AS03	Hobby association	0.122	[−0.128; 0.321]	0.0402	[−0.214; 0.243]
	AS04	Political organisation	0.335	[0.112; 0.548]	0.2833	[0.070; 0.485]
	AS05	Trade unions, employees' or employers' organisation	0.230	[0.007; 0.423]	0.1896	[−0.035; 0.382]
	AS06	Library	0.225	[0.002; 0.435]	0.1170	[−0.099; 0.338]
	AS07	Association with a religious purpose	−0.020	[−0.258; 0.210]	−0.0091	[−0.250; 0.219]
	AS08	Immigrant or self-organisation	0.025	[−0.252; 0.285]	0.0214	[−0.253; 0.278]
	AS09	Other type of association/organisation	0.517	[0.285; 0.693]	0.4557	[0.215; 0.647]
Interaction with Primary Networks (IN)	FAM	Interaction with family	0.574	[0.362; 0.778]	0.2933	[0.004; 0.567]
	FRI	Interaction with close friends	0.961	[0.855; 0.998]	0.8655	[0.661; 0.998]
Socio-economic Status (SE)	EDU	Education	0.632	[0.549; 0.709]	0.4155	[0.320; 0.512]
	INC	Income	0.409	[0.302; 0.517]	0.1345	[0.019; 0.249]
	SAT	Satisfaction with social position	0.893	[0.839; 0.933]	0.7647	[0.683; 0.831]

[a]Second test: eigenvalue highest outload 2.54 > 0; and lowest outload 0.87 < 0.
[b]Second test: eigenvalue highest outload 2.91 > 0; and lowest outload 0.66 < 0.
[c]Item showed a factor loading below 0.4 and thus was excluded from the analysis (Churchill Jr, 1979).
[d]We run the model excluding this indicator with a low load. The results did not substantially change.
[+]This item was recoded because in its original form, it measured the latent variable in the opposite way.
No significant loadings/weights are those which: (1) values are outside of the Confidence Interval (CI) or (2) the Confidence Interval (CI) includes zero.

Table 2 Results of the structural model.

a. Structural model

Dependent variable	Independent variable	β	SD	95% CI	R²	f²	Hypothesis testing (direct effects)
Positive adaptation	Mastery	0.513	0.032	[0.449; 0.573]	0.325	0.300	H1: Supported
	Neighbourhood Cohesion	0.065	0.027	[0.015; 0.117]		0.006	H4: Supported but the effect is unsubstantial
	Voluntary Association Membership	0.022	0.027	[−0.027; 0.088]		0.001	H5: Not supported
	Interaction with Primary Networks	−0.011	0.023	[−0.056; 0.035]		0.000	H6: Not supported
	Socio-economic Status	0.077	0.031	[0.013; 0.130]		0.006	H2: Supported but the effect is unsubstantial
Mastery	Neighbourhood Cohesion	0.056	0.026	[0.013; 0.114]	0.231	0.004	H7: Supported but the effect is unsubstantial
	Voluntary Association Membership	0.067	0.022	[0.038; 0.124]		0.005	H8: Supported but the effect is unsubstantial
	Interaction with Primary Networks	0.118	0.025	[0.065; 0.167]		0.017	H9: Supported but the effect is unsubstantial
	Socio-economic Status	0.402	0.024	[0.352; 0.446]		0.181	H3: Supported

b. Direct, indirect, and total effects

Dependent variable	Independent variable	Direct effect β	95% CI	Indirect effect β	95% CI	Total effect β	95% CI
Positive Adaptation	Mastery	0.513	[0.449; 0.573]			0.513	[0.449; 0.573]
	Neighbourhood Cohesion	0.065	[0.015; 0.117]	0.029	[0.006; 0.060]	0.094	[0.043; 0.153]
	Voluntary Association Membership	0.022	[−0.027; 0.088]	0.034	[0.020; 0.065]	0.056	[0.015; 0.123]
	Interaction with Primary Networks	−0.011	[−0.056; 0.035]	0.060	[0.032; 0.088]	0.049	[0.039; 0.096]
	Socio-economic Status	0.077	[0.013; 0.130]	0.206	[0.168; 0.240]	0.283	[0.221; 0.339]

No significant effects (β) are those which: (1) values are outside of the confidence interval (CI) or (2) the confidence interval (CI) includes zero.

effects, we found empirical support for hypotheses H1 to H4 and for H7 to H9, while H5 and H6 were not supported. Specifically, we found a significant positive effect of *Socio-economic Status* on *Mastery* ($\beta = 0.402$; 95% CI = [0.352; 0.446]; $f^2 = 0.181$) which supports H3. This means that if *Socio-economic Status* increases by one standard deviation, *Mastery* will increase by 0.402 standard deviations (*ceteris paribus*). Similarly, we found a significant positive effect of *Mastery* on *Positive Adaptation* ($\beta = 0.513$; 95% CI = [0.449; 0.573]; $f^2 = 0.300$), providing empirical evidence for H1. According to Cohen (1992) f^2, both effects show moderate strength. Further, we found a significant but unsubstantial effect of *Socio-economic Status* on *Positive Adaptation* ($\beta = 0.077$; 95% CI = [0.013; 0.130]; $f^2 = 0.006$), providing evidence for H2. In addition, our results show a significant but unsubstantial effect of *Neighbourhood Cohesion* on *Positive Adaptation* ($\beta = 0.065$; 95% CI = [0.015; 0.117]; $f^2 = 0.006$) supporting H4. This means that if *Neighbourhood Cohesion* increases by one standard deviation, *Positive Adaptation* will be increased by 0.065 standard deviations (*ceteris paribus*). Similar effects were observed for *Neighbourhood Cohesion* on *Mastery* ($\beta = 0.056$; 95% CI = [0.013; 0.114]; $f^2 = 0.004$) supporting H7. Considering *Interaction with Primary Networks*, our results reveal a significant and unsubstantial effect on *Mastery* ($\beta = 0.118$; 95% CI = [0.065; 0.167]; $f^2 = 0.017$) supporting H9. However, its effect on *Positive Adaptation* was not significant ($\beta = -0.011$; 95% CI = [−0.056; 0.035]) and thus provided no support for H6. Similarly, *Voluntary Association Membership* showed a significant positive, but unsubstantial, effect on *Mastery* ($\beta = 0.067$; CI = [0.038; 0.124]; $f^2 = 0.005$) supporting H8, while its effect on *Positive Adaptation* was not significant ($\beta = 0.022$; 95% CI = [−0.027; 0.088]), therefore providing no support for H5. Overall, 23.1% and 32.5% of the variance in *Mastery* and *Positive Adaptation*, respectively, could be explained by our model. Additionally, all VIF values of the path coefficients were below 1.5, indicating that multicollinearity is not an issue in the structural model.

Table 2(b) displays the results of our mediation analysis which provide support for H10 to H13, making the mediating role of *Mastery* salient. Specifically, the indirect effect of *Socio-economic Status* via *Mastery* on *Positive Adaptation* is significant and positive ($\beta = 0.206$; 95% CI = [0.168; 0.240]), indicating a complementary partial mediation by *Mastery*. The variance accounted for (VAF, Shrout and Bolger, 2002) was 0.728, showing that 72.8% of the total effect of *Socio-economic Status* on *Positive Adaptation* could be attributed to the mediating effect of *Mastery*, which supports H13. Similarly, the indirect effect of *Neighbourhood Cohesion* via *Mastery* on *Positive Adaptation* is positive and significant ($\beta = 0.029$; 95% CI = [0.006; 0.060]), indicating that *Mastery* complementarily partially mediates the effect of *Neighbourhood Cohesion* on *Positive Adaptation*, which supports H10. The corresponding VAF value revealed that 30.9% of the total effect of *Neighbourhood Cohesion* on *Positive Adaptation* is attributed to the mediating effect of *Mastery*. Considering *Interaction with Primary Networks*, its effect on *Positive Adaptation* is fully mediated by *Mastery*, which supports H12. The same was observed for the effect of *Voluntary Association Membership* on *Positive Adaptation*, which is fully mediated by *Mastery*, thus supporting H11.

Discussion

The results of our empirical analysis show that the direct effect of *Neighbourhood Cohesion* and *Voluntary Association Membership* on *Positive Adaptation* is either unsubstantial or insignificant. However, the effect of these drivers is mediated by an individual's sense of *Mastery*. These findings have strong external validity. Firstly, other studies examining individual resilience in the

Netherlands have reported a similar value for the explained variance in *Positive Adaptation* as we observed in our study, i.e., 32.5%. For instance, Doornenbal et al. (2022) reported that 24% of the variance in individual resilience could be explained by the ability to adapt and self-management. Secondly, the mediation role of *Mastery* is in line with recent research findings that explain the paths by which social resources are connected to coping mechanisms and adaptive behaviours (Kesavayuth et al., 2022; Zhang et al., 2022; Huh et al., 2023). Finally, our results agree with those of accumulative research on behavioural welfare, which indicates a poor explanatory power of social capital regarding individual coping capabilities (Veenstra et al., 2005).

Our results also give an indication of the extent to which the negative effect of a lower social position on *Positive Adaptation* can be compensated for by a factor such as *Neighbourhood Cohesion*. Considering the direct effects of *Neighbourhood Cohesion* and *Socio-economic Status* on *Positive Adaptation*, our results show that they have approximately the same magnitude (*Socio-economic Status* on *Positive Adaptation* ($\beta = 0.077$; 95% CI = [0.013;0.130]; $f^2 = 0.006$); and *Neighbourhood Cohesion* on *Positive Adaptation* ($\beta = 0.065$; 95% CI = [0.015; 0.117]; $f^2 = 0.006$). Therefore, if one lowers *Socio-economic Status* by one standard deviation, this can be approximately compensated for by increasing *Neighbourhood Cohesion* by one standard deviation (*ceteris paribus*). However, this is only half of the picture, as there are indirect effects via *Mastery*. Considering the total effect of *Neighbourhood Cohesion* and *Socio-economic Status* on *Positive Adaptation*, we can see that lowering *Socio-economic Status* by one standard deviation will lead to a decrease of 0.283 standard deviation in *Positive Adaptation*. To counterbalance that effect, it would be necessary to increase *Neighbourhood Cohesion* by approximately three standard deviations ($3 * 0.094 \approx 0.283$). Such an increase would correspond to an extreme event in practice, indicating a highly uncommon occurrence.

Further, our results emphasise the pivotal role of *Mastery* in driving *Positive Adaptation* ($\beta = 0.513$; 95% CI = [0.449; 0.573]). Remarkably, nearly 73% of the total effect of *Socio-economic Status* on *Positive Adaptation* can be attributed to the mediating effect of *Mastery*. The central role of *Mastery* in relation to *Positive Adaptation* is not trivial when contemplating the question: "From which position can one cope with permanent and continuous stress and move on from there?" People who cope with adversity and are able to move on do so through *Mastery*, which involves an empowered forward-looking disposition. This approach differs from coping mechanisms such as selectively ignoring certain stressors, searching for a "silver lining", or accommodating existing psychological stress, as these do not foster a sense of agency (Zanbar and Nouman, 2021). We posit that *Positive Adaptation* based on *Mastery* also opens possibilities for individual and social transformation, including the rejection of identities imposed by others (Brown and Westaway, 2011).

Hence, the question shifts towards whether *Neighbourhood Cohesion* and *Voluntary Association Membership* can compensate for the negative effect of a lower social position on *Mastery*. Our results indicate that counterbalancing the negative effect of a decrease in *Socio-economic Status* by one standard deviation on *Mastery* would require an increase in *Neighbourhood Cohesion* of approximately seven standard deviations ($7 * 0.056 \approx 0.402$) or an increase in *Voluntary Association Membership* of six standard deviations ($6 * 0.067 = 0.402$). This strong link between *Mastery* and *Socio-Economic Status* turns the discussion of categories regarded as distant factors, such as social structure, into a more concrete conversation about the conditions shaping vulnerability, such as the unequal distribution of agency (Bottrell, 2009, Doorn and Copeland, forthcoming; Chandler et al., 2020). One cannot expect that the positive effects of factors such as *Neighbourhood*

Cohesion and *Voluntary Association Membership* on *Positive Adaptation* via *Mastery* can compensate for the negative effect of a lower social position.

Against this background, as we have argued, mechanically extrapolating the insights from resilience against external hazards into the context of life hardships in societies is problematic. Disaster management has fairly directly retrieved social capital from resilience thinking in response to the collective action properties of cohesive communities (Aldrich, 2012). The fact that an entire human group shares the same fate in the face of an external catastrophe makes cohesiveness an a-priori desirable characteristic for a community to be resilient. However, in the context of chronic social problems, the levels of social cohesiveness are more likely to reflect conflicts between groups with a vested interest in changing social orders. Therefore, social cohesion should not be taken as an a-priori urban resilience mechanism without examining how the social *status quo* places individuals in vulnerable positions and reduces their agency. Indicator crafting practices in urban social resilience should be reconsidered in light of the unsubstantial relationships between *Neighbourhood Cohesion*, *Voluntary Association Membership*, *Mastery* and *Positive Adaptation*. Thus, we can legitimately ask whether the mobilisation of so-called social assets—a poor predictor of individual resilience—is a tempting discourse because it tends to keep the contestation and negotiation of existing social orders out of the discussion.

Alternatively, indicators should track contextual hypotheses on how a policy decision articulates the potential impact of social resources on the distribution of agency (Doorn and Copeland, forthcoming). We acknowledge that there are increasing assessments that take into account socio-economic status indicators for characterising compound vulnerability in the face of diverse hazards experienced in the urban environment (Bixler and Jones, 2022). Our findings suggest that realising the transformative potential in situations of vulnerability requires bringing the role of peoples' perceived control over their life, i.e., *Mastery*, to the fore. In our opinion, compound vulnerability assessments are most meaningful when considered through the lens of *Mastery* and satisfaction with one's social position. People's subjective satisfaction with their social position was the highest weighted indicator in our *Socio-economic Status* construct. The effect of this construct on *Positive Adaptation* was partially mediated by *Mastery*. We interpret this empirical result as quantitative support for negotiating resilience (Roberts et al., 2020), enabling the articulation of interests and voices of those dissatisfied with the current state of social affairs (Kaika, 2017). Note that this is different to assuming that people are intrinsically able to bear the burden of adapting to their social position. Rather, it requires us to ask what the specific assertions are that enable them to improve their chances of controlling their own life. In the context of negotiating resilience, such a question opens the option of gaining control by transforming social relations rather than climbing the ladder of social positions within the existing status quo.

Conclusion

This paper presents evidence and a rationale for extending social resilience as a way of understanding how individuals face the hardships of living in an urban society. The research strategy blends a critical approach to the resilience discourse with empirical work using structural equation modelling. First, we clarify that the social turn in resilience thinking retrieves social capital from disaster management, a concept that does not account for the position of individuals in social orders. Consequently, we argue that returns on social capital should be studied along with the expected impact individuals' positions in a social

order have on Positive Adaptation. Using a 2018 public survey on satisfaction with life taken in the Netherlands ($n = 1915$), we tested the interplay between *Socio-economic Status*, *Interaction with Primary Networks*, *Neighbourhood Cohesion*, and *Voluntary Association Membership*, *Mastery*, and self-reported *Positive Adaptation* behaviours.

Our results show that the positive effect of *Socio-economic Status* on *Positive Adaptation* is partially mediated by *Mastery*. In contrast, *Interaction with Primary Networks*, *Neighbourhood Cohesion*, and *Voluntary Association Membership* have insignificant or unsubstantial direct effects on Positive Adaptation behaviours. They also play a largely unsubstantial role in furnishing *Mastery*. Social resilience through so-called social urban assets (i.e., *Neighbourhood Cohesion*, and *Voluntary Association Membership*) appears unattainable from a purely instrumental perspective because they do not offset a lower social position limiting the capabilities to face the hardships of living in society. Therefore, practitioners and society should question any a-priori commitment to neighbourhood cohesion or voluntary associativity that favours existing urban orders; rather, they should bring social positions to the centre of the discussion on urban resilience negotiation. We recommend integrating neighbourhood cohesion and voluntary associativity as factors that foster urban social resilience only if that does not blur the centrality of Mastery and individuals' satisfaction with their position. In other words, indicator crafting for social resilience should be the outcome of fairly assessing agency distribution in the arrangement of social relations responsible for shaping individual vulnerability.

Our study has several limitations. Since the data was collected in the Netherlands, our insights might only be relevant to urban areas comparable to Dutch cities. Moreover, we focused attention on the instrumental view of social capital as used by pragmatic urban resilience advocates, rather than elaborating on social capital theory as a field. Also, having used self-reported measures of *Positive Adaptation* behaviour, as well as *Neighbourhood Cohesion*, we invite future research to elaborate on the interface between social position, social capital and resilience, considering the diversity of schools of thought in the field (Poder, 2011), as well as alternative measurements. Further, we pointed out that the strength and direction of the statistical relationships between the concepts of interest did not significantly change when we controlled for age and biological sex. Hence, theorisation and research should elaborate on the relationship between these factors with the circumstances that lead to social marginality and urban resilience. Finally, as with all empirical studies, replication is crucial to gain more confidence in the generalisability of our findings. For instance, future research could study the role of mastery and social position in resilience from a longitudinal perspective (Subramanian, 2004).

Future work requires investigation of the circumstances that encourage the ad-hoc endorsement of social capital as an entrenched axiom in resilience discourse, considering that social capital's explanatory power concerning individual coping capabilities appears inconclusive. Finally, we point out a conceptual dead-end for resilience thinking when it is extended to social systems. If the hazard is the ongoing hardship of living in society, there is no clear-cut differentiation between hazard, exposure and vulnerability. Rather, vulnerability is an instantiation of a hazardous social position. Future conceptual work should elaborate on the full implications of this predicate for the ethics of resilience beyond disaster management.

Data availability

The data that support the findings of this study are available from Data Archiving and Network Services—Koninklijke Nederlandse Akademie van Wetenschappen (DANS.KNAW). Certain restrictions apply to the availability of these data, which we used for the current study under license. Data are however available from the authors upon reasonable request and with permission of DANS.KNAW.

Notes

1 Poder's (2011) literature review identified two additional streams of thought on capital theory. First, there is the sociology of networks, a type of economic sociology which emphasises the embeddedness of positive returns in a structure of weak and strong ties (Granovetter, 1973). Second, there is the sociological approach developed in Bourdieu (1977), which characterises social capital as a resource reproducing asymmetric power relationships.

2 An anonymous reviewer asked us to control for the effects of variables such as age, sex, and migrant background when testing our conceptual model. Therefore, we estimated a second model containing the direct effects of age and sex on mastery and positive adoption. The results are very similar to those reported in the manuscript, and in particular, the drawn conclusions remain the same. The results of the second analysis are reported in the Supplemental Material.

3 This permutation test for unidimensionality consists of two steps. The first step evaluates whether the largest eigenvalue of the correlation matrix for a set of items associated with a latent variable is larger than 1. If this is the case, the second step investigates whether the second-largest eigenvalue of this correlation matrix is smaller than 1. Considering the correlation matrix of the items associated with Positive Adaptation, the largest eigenvalue (l_1) is 2.54 and statistically significantly larger than 1 ($p < 0.01$), while the second largest eigenvalue (l_2) is 0.87 and statistically significantly smaller than 1. Similarly, for the correlation matrix of the items associated with Mastery. The largest eigenvalue is significantly larger than one ($l_1 = 2.91$; $p < 0.01$) and the second largest eigenvalue is significantly smaller than 1 ($l_2 = 0.66$; $p < 0.01$).

4 We also ran the model without the indicators that showed a non-significant weight and composite loading and the results did not change substantially.

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The authors declare no competing interests.

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Informed consent is not applicable.

Additional information