

# Community-Level Characteristics Associated With Resilience After Adversity: A Scoping Review of Research in Urban Locales

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## Abstract

The objective of this study was to document the current knowledge on characteristics measured at the community level and their relationship to individual or community well-being. The review specifically focuses on studies in urban locations. The main aim was to describe and organize evidence-based community strengths using a multidimensional portfolio approach to resilience. A scoping review using PRISMA-ScR guidelines was performed through searches of English-language articles in PsycINFO and PubMed databases. Inclusion criteria encompassed strengths or deficit factors assessed at the community-level of analysis. Our initial searches produced a pool of 2,246 articles, with 87 meeting full criteria for this review. Community-level variables were often measured as deficits or risk factors. Most studies were conducted in North America. Relationships between community variables and individual well-being showed mixed results for social characteristics but, more consistently, positive associations for strengths-based measures of natural and built environments such as access to green spaces and walkability. Models of resilience, including those focused on individuals, should include environmental characteristics. Findings of the current study suggest foundational concepts for a community resilience portfolio model to complement the more individual-focused models currently in use.

## Keywords

violence exposure, cultural contexts, mental health and violence

## Introduction

Trauma exposure is a pervasive problem and has led to a growing interest in understanding resilience: the process of overcoming trauma to achieve health and well-being (or at least minimizing symptoms). Most social science conceptions of resilience describe it as a process that encompasses harnessing various assets and resources to promote individual thriving (e.g., Hamby et al., 2018). Many resilience studies emphasize individual characteristics rather than broader models of resilience building, such as the social-ecological model (e.g., Eriksson et al., 2018). Especially, one key gap in mainstream psychology and related social science literature is the use of individual-level variables (usually perceptions of community members in surveys) even when community characteristics are assessed. However, the study of community resilience has also emerged. Like individual resilience, community resilience also refers to the process of overcoming adversity. However, they operate at different levels, with individual resilience focusing on how a single person harnesses their assets and resources (such as emotion regulation

or social support) to address trauma, often an interpersonal event such as an assault. Community resilience is the capacity of a group (usually defined by geography or shared interests) to recover from adversities (Phillips et al., 2024). The adversities are often collective too, such as natural disasters, economic hardships, or social disruptions. Community assets and resources involve social networks, shared values, and institutions that help communities adapt and thrive. The goals of this scoping review are to begin to build bridges

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between these literature and characterize the kinds of community variables that are associated with better outcomes for both individuals and communities in urban areas.

### *The Role of Communities in Resilience*

Although older research on the resilience of individuals primarily focused on characteristics like determination or grit, many contemporary resilience models emphasize a multidimensional approach that includes family, peer, and community resources (e.g., Hamby et al., 2018; Ungar, 2018). Commonly studied variables include social support, school climate, and collective efficacy (e.g., Brooks et al., 2024; Hamby et al., 2018, 2020a). This research has shown that external resources play important roles in helping people overcome trauma, although much still needs to be done to determine which social factors are most important. Some studies have found that measures that include elements of the social ecology, such as family care meaning-making, relational motivation, and social support seeking, have an unexpectedly inverse association with individual outcomes, perhaps capturing elements of caregiver or other relational strain as well as strengths (e.g., Hamby et al., 2018, 2020a, 2020b).

Prior research has also been limited in other ways. Community psychologists, social workers, and advocates look outward to the influence of neighborhoods, schools, and other locations. However, they still primarily assess community characteristics at the individual level. That is, they are usually assessed by questionnaires in survey research that collect perceptions of these resources, such as perceptions of neighborhood collective efficacy or social cohesion. These studies have the advantage of allowing individuals to define community for themselves but suffer from biases inherent in self-report surveys. First, perceptions can differ from reality. For example, people often overestimate the risk of crime in their neighborhoods (Quillian et al., 2010). Second, this introduces method variance, because the individual outcomes (depression symptoms, subjective well-being, etc.) are also typically measured via self-report. Additionally, this means that numerous community resources are not well represented in most research on individual resilience. For example, there are few studies on the role of access to health care in helping people overcome trauma. Finally, individualistic approaches also mean that information that people are not likely to know—such as the percentage of green space in their neighborhoods—has received less attention than common survey items such as social support.

Research on community resilience has its own set of achievements and challenges (Hall et al., 2023; King et al., 2022; Phillips et al., 2024). “Community” can refer to many kinds of groups, including ones that are defined by geographic boundaries and affinity communities characterized by shared interests or experiences, such as veterans or Trekkies. Prior work on community resilience identified a

wide range of potential areas of strength that might contribute to community resilience. These include readiness to change, social capital, collective efficacy, leadership, communication, policies, community adaptability, spirituality, cultural preservation, and economic and collective action resources (e.g., King et al., 2022). However, although these strengths are listed and detailed, they lack the organization of an overall model of resilience. Researchers also note variability in measurement quality. Further, even when the outcomes of interest are community-focused, some measures are still assessed at the individual level (Hall et al., 2023). Prior reviews of community resilience have also focused on definitions and concepts rather than identifying the specific protective factors that contribute to better outcomes (Hall et al., 2023; King et al., 2022; Phillips et al., 2024). Due to gaps in previous literature and the atheoretical nature of some prior work, there is a need to organize this array of strengths and resources into a framework of protective factors.

Other disciplines have the potential to advance our work on resilience. Research in urban planning typically focuses on the built environment. Urban planning studies often include community-level data, such as crime rates or indicators of social capital that characterize entire neighborhoods. However, their typical focus on preparedness for disasters has meant this research has not been well integrated with social and psychological aspects of resilience (Cutter, 2016; Rockefeller Foundation, 2015). Therefore, there is a need for a more comprehensive examination of social, physical, and natural features of communities measured at the community level and how they relate to indicators of mental and physical well-being.

### *An Integrated, Ecological Approach to Resilience*

The current scoping review organizes research on community-level strengths based on recent innovations in the study of resilience among individuals. Examples of community-level measures include indicators of social capital (e.g., the number of libraries or nonprofits in a community) or indicators of the physical environment (e.g., the number of parks or the amount of green space). The theoretical framework for this study is the resilience portfolio model (RPM) (Hamby et al., 2018). A foundational tenet of the RPM is that well-being is supported by an array of assets and resources, and these can be tailored for different communities. The RPM focuses on three domains of strengths: regulatory, meaning-making, and interpersonal. Regulatory strengths involve factors that promote equilibrium and adaptation (emotion regulation for individuals, and systems for meeting basic needs in communities). Meaning-making strengths involve a sense of purpose and identity. Meaning could derive from an individual’s spiritual practices. At the community level, meaning-making can include the availability of spiritual communities or opportunities for youth to play leadership

roles in governance or policy-making (Hamby et al., 2018). Finally, the interpersonal domain focuses on relational resources like social support (for individuals) or leadership and community levels of social capital (for communities).

The RPM has primarily been applied to identifying strengths that help individuals overcome trauma, including several features of the social ecology such as school climate, social support, group connectedness, and teacher engagement (e.g., Brooks et al., 2024; Hamby et al., 2018, 2020a, 2020b). However, all prior RPM research has used individual-level measures such as self-report surveys and qualitative interviews. The RPM might also be useful in organizing community-level assets that support community indices of well-being. The current scoping review aims to better understand the broader context of resources—specifically community-level, place-located characteristics that promote well-being. In addition, this review includes individual (e.g., individual reports of mental health) and community (e.g., crime rates for a neighborhood) outcomes. This contributes to building bridges between research on individual and community resilience and creates initial steps toward a community resilience portfolio model (CRPM).

As we noted, “community” can mean many things. It is not possible to include all possible meanings of community in a single paper. Most prior research on communities has focused on geographic communities that can be defined by neighborhoods, census tracts, or the legal boundaries of cities and towns. This review excludes virtual communities, schools, military bases, workplaces, and affinity communities based on other identities or interests.

Further, perhaps because denser population areas make it easier to compare blocks or census tracts within relatively narrow geographic confines, much of this research has been conducted in urban areas. Urban planning is also a well-established research discipline that has focused on community resilience in cities more than research in rural areas. Studies show that person-place relationships may differ in these two contexts (Belanche et al., 2021) and that residential context can influence health behaviors (Manyanga et al., 2022; Peters, 2020). Many variables, including exposure to pollution and lack of nature, have been reviewed in relation to links between urban settings and worse mental health (Ventriglio et al., 2021). While acknowledging heterogeneity within any geographic classification, the current study focused specifically on urban locales both because the physical structure of these communities is different from rural ones and to better understand strengths within urban spaces.

Finally, this scoping review focuses on health and well-being as our primary outcomes. This includes a wide range of factors, from self-reported symptoms to exercise to rates of disease in a given community. We included all kinds of outcomes, including those that focused on the absence of bad outcomes (e.g., lower rates of disease) as well as the presence of positive outcomes (e.g., greater life satisfaction). We did not include research on economic factors such as business activity or rates of construction. Using the RPM

framework as a guideline, we sought to expand and explore aspects of human ecology and how those affect individuals and communities.

## Methods

### Search Strategy

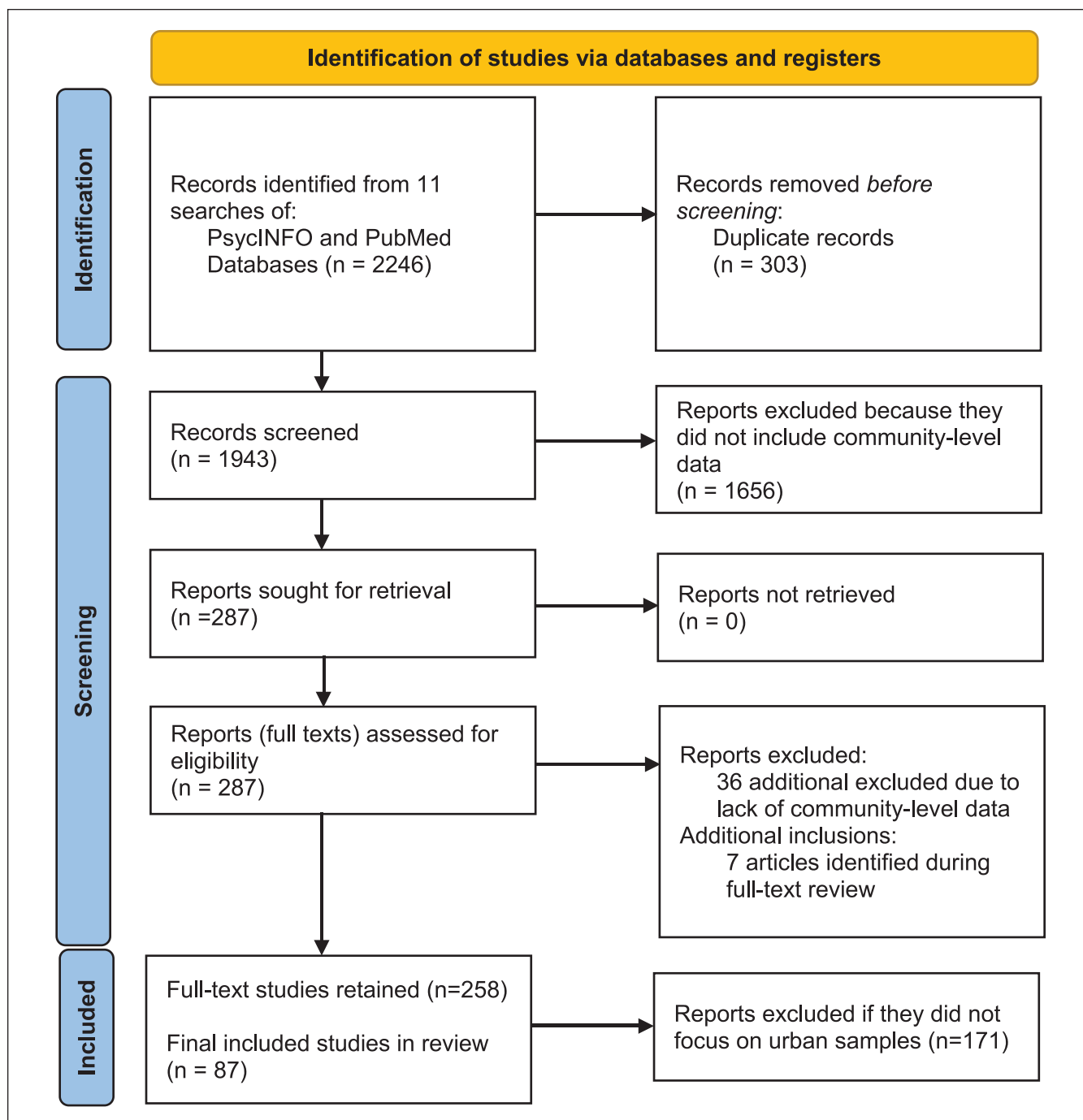
The research team followed the PRISMA-ScR approach (Page et al., 2021). The research team searched two databases (PubMed and PsycINFO) on July 10, 2023, to build a database of current research on community-level characteristics. Specific terms focused on geographic communities, such as built environment, greenspace, neighborhood, census (including tract and block), and geographic community, rather than online, identity-based, or school or work communities. The specific searches on PsycINFO were: (greenspace) AND (resilience); (neighborhood) AND (resilience); (built environment) AND (resilience); (census) AND (resilience); and (geographic community) AND (resilience) NOT (culture) NOT (online) NOT (school). PubMed searches were (greenspace) AND (resilience); (neighborhood) AND (resilience); (built environment) AND (resilience); (census (block)) AND (resilience); (census (tract)) AND (resilience); and (geographic community) AND (resilience) NOT (culture) NOT (online) NOT (school).<sup>1</sup> The searches produced a low of 12 articles to a high of 900 articles, totaling 2,246 results. Given this large dataset, we confined our review to these two databases. We did not register the scoping review, but the protocol is available from the authors upon request.

### Inclusion/Exclusion Criteria

Articles had to include empirical data and be written in English. We did not include any date exclusions. Most critically, articles also had to include community-level data, that is, data that were characterized and measured at the level of a geographic area (e.g., a census tract or neighborhood/county/town). Community-level data included measures such as poverty rate, crime rate, prevalence of a health condition, number of libraries, or number of parks in a specific geographic area. Data could be collected from individuals, but data had to be aggregated to describe a geographic area (e.g., into average ratings for a census tract). Articles were excluded if they included only individuals' perceptions of their communities (collected quantitatively or qualitatively). Examples of individual-level variables in excluded papers included a sense of community, perceptions of community norms, and sense of safety unless these measures were aggregated at the neighborhood level in a separate survey.

### Article Screening and Data Extraction

After omitting 303 duplicates, the starting sample for screening was 1,943 articles (see Figure 1 for the PRISMA



**Figure 1.** PRISMA chart.

Source. Page et al. (2021).

flowchart). The software program rayyan.ai was used to facilitate coding that was done by research team members. All coding was done by the research team. Rayyan.ai is a database tool that combines search results and provides a feature to flag duplicates, identify reasons for exclusion, and keep track of agreement between coders. This allowed the team to see which articles did not have consensus coding and

to revisit those articles for discussion until a consensus was reached. The first round of screening involved a review of titles and abstracts, with at least two researchers scanning each article to ensure that the research included a health/psychosocial outcome and a community-level measure of the physical, social, and natural environment. When this was not clear, the default was to include the article for further review.



At this first level of screening, agreement was reached on 83.1% of the 1,943 articles. The result was 287 articles moved to full-text review.

At least two reviewers read the full text of each article and used rayyan.ai to enter their decision to include or exclude along with a reason. Reviewers agreed 82% of the time on inclusion, with the first and last authors resolving conflicts through discussion. The full-text review resulted in excluding an additional 36 articles that lacked community-level data and the addition of 7 new articles discovered through citation review. Finally, due to the large number of studies still in the pool and their diversity of approaches, the research team decided to focus on articles with data from urban locations, eliminating 171 studies examining nonurban locations and leaving 87 articles for this scoping review. Two researchers independently coded each article, including the city and country where the study was conducted, nature of the sample, study design, adversity type, outcomes assessed, whether outcomes were measured at the community or individual level, community-level variables assessed, and results. A stepped approach to qualitative thematic analysis was applied. The first step identified the overall themes that described the different types of community strengths (including those assessed as lower scores on deficits). Studies were then analyzed for measured variables using a risk/deficits or a strengths lens. Finally, we categorized them as referring to elements of social, natural, or built environments. Final analyses examined how the themes reflected the RPM or expanded upon it.

## Results

A thematic analysis of the included studies suggested three main divisions of strengths at the community level: social, natural, and built environments. Each of these represents one aspect of human ecology. Within these divisions, we further sorted into those that used a deficit lens (variables such as neighborhood disadvantage) and those that measured strengths as something more than the absence or inverse of deficits, such as social capital. Most studies (77.0%) were conducted in North America.

### Types of Adversity

A wide range of adversities were represented. These included natural disasters (e.g., hurricanes, floods), poverty, neighborhood disadvantage, crime, the COVID-19 pandemic, discrimination, various forms of interpersonal violence (including child maltreatment), and stressors associated with developmental processes like aging.

### Social Environment Characteristics

The largest category, characteristics of the social environment, encompassed analyses measuring attributes of people,

their resources or relationships (e.g., crime data, poverty, and collective efficacy). These characteristics would generally fall into the interpersonal domain of the RPM. Several articles focused on demographic variables (e.g., percentage of specific racial or ethnic groups, population size density, and movement of people displaced by disaster). These characteristics are primarily descriptive and can even be potentially problematic when considered as strengths or deficits (e.g., stigmatizing more racially heterogeneous areas: Chandrabose, Owen, et al., 2019; Fraser et al., 2022; Gero et al., 2020 in Japan; Graif, 2016; Koop-Monteiro, 2021; Ma et al., 2022 in China; Wang et al., 2021). Further, the RPM focuses on malleable characteristics that might become appropriate targets of prevention or intervention (unlike forcing people to move). Thus, we note that these are community-level variables, but do not discuss them further.

### Deficit-Focused Characteristics

**Neighborhood Disadvantage.** The largest group of analyses in the social category used measures referred to as *neighborhood disadvantage*, *concentrated disadvantage*, or *social vulnerability*. The Centers for Disease Control's (CDC) Social Vulnerability Index was a common measure. This index comprises 15 variables, including percentage of individuals in a community whose income is poverty level, who are employed, on public assistance, or are renters. The index also includes average educational attainment, public transportation availability, and vacant housing rates (Hahn et al., 2022). Most elements capture negative attributes. Although low scores can be seen as "less disadvantaged," this is not equivalent to the presence of advantages.

Other studies used other indicators of economic disadvantage, such as income or poverty rate alone. McWayne (2003) included social deficit factors such as truancy rates and teen births alongside the incidence of residential fires and lead levels. However, the study did not find that these indices explained educational outcomes among preschool children. Two studies employed structured neighborhood observations to assess disadvantage (Caughy et al., 2012; Milam et al., 2012). Several studies focused more narrowly on economic disadvantage or poverty. (Caughy et al., 2012; Choi et al., 2019; Fagan et al., 2014; Jain & Cohen, 2013; Lau et al., 2020; Lowe et al., 2015; Nieuwenhuis et al., 2016; Ravi et al., 2023; Schnake-Mahl et al., 2020; Scott, 2021; Shuey & Leventhal, 2017; Spielvogel, 2021). Indicators of housing, transportation, or other factors were generally not incorporated into these assessments of disadvantage (Alroy et al., 2023; Barzilay et al., 2021; Blanco et al., 2023; Gong et al., 2023; Hahn et al., 2022; Harrison et al., 2021; Koop-Monteiro, 2021; J. J. M. Lee et al., 2023; Leech & Adams, 2023; Li et al., 2021; Malik, 2018; McWayne, 2003; Miller-Graff et al., 2016; Koinis Mitchell et al., 2004; Nieuwenhuis et al., 2015; Pais et al., 2014; Pizarro et al., 2020; Prudent et al., 2016; Qiu, 2006; Rabinowitz et al., 2020; Schuck &

Widom, 2019). Four of these studies on disadvantage were conducted outside of North America, in Chile, New Zealand, the Netherlands, and the United Kingdom (Blanco et al., 2023; J. J. M. Lee et al., 2023; Mitchell et al., 2009; Nieuwenhuis et al., 2015).

We first consider the studies that linked community characteristics with individual outcomes. For children, two studies found that markers of neighborhood or economic disadvantage were consistently associated with worse outcomes, such as greater exposure to interpersonal violence, adverse childhood experiences, bullying, social-emotional problems, and social aggression (Caughy et al., 2012; Choi et al., 2019). In a study from the Netherlands, youth from disadvantaged neighborhoods took longer to complete school degrees (Nieuwenhuis et al., 2015). An intervention study for stress management found reduced program effects for young people in neighborhoods with high disadvantages (Lau et al., 2020).

However, other findings varied. Alroy et al. (2023) found economic disadvantage associated with higher suicide ideation for young children and girls, but not boys, while Fagan et al. (2014) did not find an association with violence or substance use. Another Netherlands analysis found that neighborhood wealth was not significantly related to work commitment among young people but was related to greater unemployment, particularly for youth who scored high on personality measures of over- and under-control (Nieuwenhuis et al., 2016). In Qiu (2006) study, indirect aggression and anxiety were not significantly related to several city characteristics. However, lower poverty was associated with increased prosocial behavior (one of the few studies to assess strengths-focused outcomes). Among youth in low-resource Baltimore communities, those exposed to the most violence and disadvantage also scored highest on coping strategies, including cognitive restructuring and problem-focused coping, indicators of individual strengths in the context of community disadvantage (Rabinowitz et al., 2020).

For adults, the links between aspects of disadvantage and various outcomes were also highly variable. Two studies found expected patterns. Adults in communities with higher income and education levels had lower rates of intimate partner victimization (Miller-Graff et al., 2016). Increased economic development lowered depression after a natural disaster (Lowe et al., 2015). Other studies found mixed patterns. One group found that markers of neighborhood disadvantage were associated with some outcomes, but not others. Schuck and Widom (2019) found that nonmaltreated adults in disadvantaged neighborhoods had current post-traumatic stress disorder (PTSD) symptoms similar to adults exposed to child maltreatment. Affluence was also associated with fewer symptoms. However, neighborhood disadvantage, affluence, and residential stability were not significantly related to lifetime PTSD. Neighborhood disorder was associated with perceived neighborhood quality but not perceptions of property values in another study (Pais et al., 2014).

Other studies found expected links between disadvantage and worse outcomes, but only (or more so) for some subgroups. Ravi et al. (2023) found that poverty increased PTSD, especially for Black women who scored low on experiences of discrimination. Gentrification reduced distress among residents in New York City, but hypergentrification decreased psychological distress only among white residents and not Black or Latino residents (Alroy et al., 2023).

Spielvogel et al. (2021) found affluence was correlated with higher somatic symptoms and lower health and happiness at the bivariate level. When looking at changes over time, the study surprisingly found poverty related to *increases* in neighborhood resources, leading to reduced somatic symptoms and increased perceptions of general health. The models, however, were complex and did not produce the overall main effects of poverty on well-being. Further, models showed different relationships for participants who moved versus those who stayed in their original locale and different findings for overall well-being scores versus changes over time. The Spielvogel (2021) study suggests the links between community and individual factors could be complex too. They found that increases in community poverty were related to increased individual perceptions of crime, which increased stress, which was related to greater somatic symptoms and lower perceived health. Some studies simply had null results for their community-level variables. Adults who moved to a gentrified neighborhood after a natural disaster did not show positive changes in self-rated health or psychological distress (Schnake-Mahl et al., 2020). The variety of findings is likely due to different measures and the distance between characteristics of a geographical location and the local context of individuals' feelings, thoughts, and behaviors (which were often measured as outcomes). Studies that examined moderating variables (such as gender) or worked to unpack mediating mechanisms such as resource access seemed to show more significant relationships between community and outcomes.

Seven studies examined the links between neighborhood disadvantage and community-level outcomes, which captures community resilience. These findings were more consistently in the expected direction. Neighborhood disadvantage was related to higher community-level crime rates (Gong et al., 2023; Pizzaro et al., 2020) and juvenile drug arrests (Milam et al., 2012). Higher income was linked with lower crime (Koop-Monteiro, 2021), greater community resources for children and parents (Shuey & Leventhal, 2017), and lower refusal of ambulance transports during COVID-19 (Harrison et al., 2021). Higher rates of social vulnerability were associated with worse indicators of physical and mental health measured at the community level (Hahn et al., 2022).

**Crime and Disorder.** Fourteen articles included community-level indices of crime and social disorder (D'Agostino et al., 2019; Gong et al., 2023; Heinze et al., 2018; Koop-Monteiro, 2021; E. Lee & Santiago, 2021; Leech & Adams, 2023;

Miller et al., 2018, 2021; Miller-Graff & Graham-Bermann, 2016; Pizarro et al., 2020; Rabinowitz et al., 2016; Spielvogel, 2021; Waa et al., 2017; Williams et al., 2020). These deficit measures assumed the positive state is the absence of crime. All but one article (Waa et al., 2017) used data from North America. More than half focused on analyses where predictors and outcomes were measured at the community level (studies using crime statistics as an outcome for green space interventions are described below). These studies had more consistent findings than the research on neighborhood disadvantage, with higher rates of crime and disorder generally associated with a range of adverse outcomes.

Regarding individual outcomes, neighborhood social disorder was a risk factor for adolescent tobacco use (Lee & Santiago, 2021). Higher neighborhood murder rates were linked to stress-related inflammatory responses, cardiometabolic risk, and additional physiological markers among youth (Miller et al., 2018, 2021). However, changes in crime following a natural disaster were not related to adult self-reported psychosocial outcomes, either at initial assessment or follow-up (Spielvogel, 2021).

Community-level resilience processes can be gleaned from articles focusing on community-level variables in analyses. Observational measures of social disorder and violence were correlated with lower rates of adequate child birthweight and reading on time, and higher rates of school dropout, teen births, and youth mortality (Williams et al., 2020). Similarly, higher crime rates were related to higher rates of premature death among urban Māori communities in New Zealand (Waa et al., 2017). One article focused on an intervention called Fit2Lead, which provided paid internships, academic support, conflict mediation, and afterschool sports and life skills for youth in a park setting. Zip codes where the program took place had lower juvenile arrest rates pre- to post-program. This effect was stronger for areas geographically closer to the Fit2Lead parks, showing an interesting dose-response effect (D'Agostino et al., 2019).

**Strengths-Focused Factors.** Several articles measured protective factors (rather than inferring strengths as low levels of deficits), such as positive social relationships in a neighborhood and social capital.

**Positive Social Relationships.** *Collective efficacy* refers to perceptions that community members have interpersonal trust and the capacity to create safe and orderly environments (Sampson et al., 1997). Five articles used a community-level measure of collective efficacy. All but one (Pais et al., 2014) came from the Project on Human Development in Chicago Neighborhoods (Fagan et al., 2014; Jain & Cohen, 2013; Jain et al., 2012; Shuey & Leventhal, 2017). The Chicago study conducted a separate community survey with adults and averaged responses to create census-block-level figures for

collective efficacy to combine with the main study of youth outcomes.

Most of these studies focused on individual outcomes and again findings were mixed. Living in a neighborhood with higher baseline collective efficacy was related to longitudinal improvement in externalizing symptoms (Jain & Cohen, 2013). Pais et al. (2014) found that neighborhood collective efficacy was related to individual residents' perceptions of better neighborhood quality and property values. However, there was no significant relationship between community collective efficacy and substance misuse or violence (Fagan et al., 2014). In other studies, neighborhood social control was not related to lower externalizing or internalizing symptoms (Jain et al., 2012; Jain & Cohen, 2013).

Some studies found significant relationships in unexpected directions. Fagan et al. (2014) found that higher collective efficacy was unexpectedly related to a greater variety of substances used. However, higher collective efficacy also attenuated the association between violence exposure and substance use. In another, neighborhood collective efficacy was surprisingly associated with worse emotional resilience over time among youth who witnessed violence (Jain et al., 2012). In a study of community resilience processes, one study found that high average levels of collective efficacy were associated with more affluence and less concentrated poverty (Shuey & Leventhal, 2017).

**Social Capital.** *Social capital* refers to a range of community assets, usually relational strengths such as “bonding” (connections among friends and family), “bridging” (connections between social groups), and “linking” (relationships between community members and local or state entities) (Fraser et al., 2022, p. 3).

Once again, the findings were mixed for studies on youth. A cross-city qualitative measure of social capital failed to find significant relationships associated with geographic differences in child outcomes (Maggi et al., 2011). Neighborhood social cohesion was not an overall predictor of mental health for children and adolescents (Rina et al., 2014). However, maltreated adolescents, (versus nonmaltreated adolescents and younger children) in high cohesion neighborhoods, had less increase in internalizing problems over time. This protective effect was most pronounced for older adolescents. Again, studies examining moderator variables seemed to show stronger effects. However, social cohesion was not significantly related to internalizing symptoms over time among Chicago youth (Jain et al., 2012). Further, surprisingly, higher social cohesion was related to decreasing behavioral resilience across later waves of the study (Jain & Cohen, 2013). Unmeasured third variables might explain this finding. In a creative exploration of social capital, Safa et al. (2019) studied the concentration of Latino families at the neighborhood level to examine well-being among Latino adolescents in the context of bicultural competence. They found that adolescents in neighborhoods with a high concentration of

Latino families showed a significant relationship between bicultural facilities and lower externalizing symptoms, suggesting moderating effects of neighborhood variables.

Studies with adults also had varied results. A lower percentage of residents living alone, which was thought to indicate more social capital, was unexpectedly related to increased PTSD after a hurricane (Lowe et al., 2015). Fraser et al. (2022) found that higher social capital, especially “linking” relationships, was related to lower COVID-19 positive test rates. However, findings for other forms of capital (bonding and bridging) were mixed with links to higher COVID-19 spread but only for some communities. As with many studies, moderator variables that might explain this variation across towns were not explored.

Malik (2018) attempted to develop measures of community resilience and recovery after natural disasters. One dimension of this big data project was “social infrastructure and community connectivity,” which included population density, extremes in age distribution, and the percentage of people living alone. They also included variables such as vacant units, education, and the density of libraries (this latter characteristic we consider an aspect of the built environment), and education. Importantly, Malik used strengths-based terms and yet found that most publicly available indicators of communities are deficit-based. Mitchell et al. (2009) also created a measure of community resilience linked to U.K. mortality rates. They then qualitatively described areas as “resilient” if they had lower mortality despite high-risk factors. Defined this way, they found that resilient communities had high social cohesion.

**Asset or Resource Indices.** Eight studies created indices that focused on the presence of positive resources (some of these reflect more of the built environment or a mixture but are cited here because they represent strength resource indices) (Adams et al., 2019; Jain et al., 2012; Jain & Cohen, 2013; Niu et al., 2022; Shuey & Leventhal, 2017; Waa et al., 2017; Williams et al., 2020; Zang et al., 2018). Although not all included assets were social (some included positive aspects of physical or green spaces), we included them here if the preponderance of indicators were social.

Niu et al. (2022) used Cutter’s Baseline Resilience Indicators for Community (BIRC) model in China and Bosnia and Herzegovina to study community strengths and COVID-19 disaster resistance. Their “community capital” index captured aspects of social cohesion, including participation in community activities, willingness to help others, and a sense of belonging. The paper was mainly descriptive; thus, the index was not specifically linked to outcomes. It is included here as an interesting example of a strengths-based index.

Among studies with youth, an observational index of youth opportunities derived from coding videos around Chicago was not significantly related to internalizing or externalizing problems (Jain et al., 2012; Jain & Cohen,

2013). Williams et al. (2020) used an observational checklist that resulted in an “improvements index” with positive items like “adults making repairs/yardwork.” This factor was related to one of five measured outcomes—lower teen births.

Results for adults were more consistently positive. Adams et al. (2019) used public data across 25 areas of health. They created strengths-based composites, such as a “social domain” which included the percentage of the population registered to vote and the percentage of two-parent families. The relationship between poor health and lesser disaster preparedness was less strong in communities with higher scores on the social domain. Other studies focused on counting available resources. Zang et al. (2018) found that more community resources for older adults were related to older adults’ reports of well-being. Similarly, Shuey & Leventhal, 2017 used a community survey to develop an average count of resources for children by neighborhood. Increased resources for parents and children were related to lower parental physical aggression toward children and indeed, this index of positive resources mediated the relationship between affluence and less parental aggression. However, resources for children were not related to parental warmth or harshness.

**Neighborhood Health.** Neighborhood health refers to measures of health care capacity or community-level rates of health characteristics such as viral loads, adverse pregnancy outcomes, sexual risk behaviors, cardiovascular incidents, percentage of healthy children, or mortality (Adams et al., 2019; Beauchamp et al., 2022; Egan, 2016; Hahn et al., 2022; Harrison et al., 2021; Kim et al., 2019; Milam et al., 2012; Mitchell et al., 2009; Ozbilen & Akar, 2023; Scott, 2021; Williams et al., 2020). Seven articles were from outside the United States, including Chile, New Zealand, China, and the United Kingdom (Blanco et al., 2023; J. J. M. Lee et al., 2023; Leiva-Bianchi et al., 2019; Mitchell et al., 2009; Niu et al., 2022; Waa et al., 2017; Xu et al., 2021).

Neighborhood health had more consistent findings than other social characteristics. Community factors like lower average income were related to worse health outcomes (e.g., Egan, 2016). Composite indices of social vulnerability (including observational measures) in communities were related to poorer health (Hahn et al., 2022; Kim et al., 2019; Williams et al., 2020), less use of health-related services (Harrison et al., 2021; J. J. M. Lee et al., 2023), and less ability to stay at home during COVID-19 (Coleman et al., 2022). For example, Hahn et al. used an index of exposure and losses due to natural disasters and the CDC Social Vulnerability Index (described above) for census tracts matched with self-reports of physical health problems at the individual level. Poor physical health increased as scores on the social vulnerability index increased. In a study of community resilience, Kim et al. (2019) categorized neighborhoods as resilient if they had low rates of cardiovascular disease morbidity and mortality among Black residents and compared them to Black residents in similar median-income



communities with higher rates of cardiovascular problems. Though the measures used were deficit focused, resilient communities had higher levels of education, a younger population, and fewer residents with extremely low incomes and lower income inequality. The consistency of physical health findings described in this section may be related to the deficit measures used but may also reflect closer ties between physical symptoms and community-level factors.

### *Natural Environment Characteristics*

A second central theme in community-level resources studied focused on *green spaces*, or areas with trees or other vegetation ( $n=16$ ). Some measures also accounted for *blue spaces* (open water). Characteristics of the physical environment are a new area of focus for the RPM. The natural environment was measured in several ways, including the amount of vegetation that could be observed via satellite in Thailand (Cinderby et al., 2021), surveys of tree cover in Bulgaria (Dzhambov et al., 2019), number of parks or gardens in Canada (Koop-Monteiro, 2021), park use in China (Zhang & Li, 2023; Zhong et al., 2023), and geographic distances between neighborhoods and local parks in Colorado (U.S.) (Scott, 2021). Other studies (Gong et al., 2023; Heinze et al., 2018; Pizarro et al., 2020) assessed the impact of cultivating green spaces in urban neighborhoods. Some studies (Blanco et al., 2023; Malik, 2018; Niu et al., 2022) created indices that included measures of natural environments but not in ways that unique effects could be disaggregated from other factors. Herreros-Cantis et al. (2021) highlighted neighborhood differences in environmental resource access as a social justice issue. However, their study lacked links to outcomes.

In contrast to the various measures of the social environment, findings for green spaces were more consistently positive. Across measures, neighborhood greenness was related to lower stress, anxiety, depression, hurricane-related distress, and hyperarousal (Cinderby et al., 2021; Dzhambov et al., 2019; Li et al., 2021). Some studies examined access to green spaces in the context of the COVID-19 pandemic and showed positive effects of greenspace on mental health and smaller declines in satisfaction with leisure (Löhmus et al., 2021 in Sweden; Ma et al., 2022 in China). One of the most researched outcomes associated with greenspace was crime data. Higher numbers of community gardens (Koop-Monteiro, 2021) and green spaces in vacant lots (Gong et al., 2023; Heinze et al., 2018) were associated with lower crime, although effects of such interventions can take time to emerge and wane over time (Pizarro et al., 2020).

However, these findings did not hold across every country (Cinderby et al., 2021) or outcome studied (Adams et al., 2019; Li et al., 2021; Mitchell et al., 2009). For example, green spaces did not improve life satisfaction in another COVID-19 study (Mouratidis, 2022 in Norway). Winter et al. (2019) revealed that the use of green space was associated with greater exposure to ozone in parks located in

disadvantaged neighborhoods, suggesting that not all green spaces provide equal beneficial effects.

Notably, most studies conceptualized the natural environment as a strength. The exception was a small number of studies that assessed exposure to natural disasters (Gruebner et al., 2015; Hahn et al., 2022; Li et al., 2021). Their results indicated an association of mental health problems with ocean proximity and hence vulnerability to disaster; Gruebner et al., 2015; Hahn et al., 2022; Leiva-Bianchi et al., 2019) where nature was seen as a risk or deficit variable. However, Waa et al., 2017 did not find that a deficit-based composite of environmental disadvantage (UV levels, temperature, greenness, and air quality) was related to mortality/premature death among New Zealand Māori.

### *Built Environment Characteristics*

The *built environment* refers to human-made features of the physical ecology. It includes architecture, housing, lighting, roads, and bridges. It is often operationalized by measuring features such as building density and height, size of dwellings, and transportation patterns (Arcaya et al., 2014; Chen et al., 2023 in Denmark; Coleman et al., 2022; Malik, 2018; Mitra et al., 2020). An important concept is *walkability*, which captures how easily it is to move among housing and businesses (e.g., Chanderbose et al., 2019).

The results indicated connections between many aspects of the built environment and well-being. Most of these studies examined adults. Findings included that people living in suburban sprawl (medium-density spaces) had the highest depression rates compared to people in low-density urban spaces or high-density ones that included open spaces (Chen et al., 2023). Sprawl was also linked to greater body mass index (Arcaya et al., 2014). An Australian study revealed that women who live closer to supermarkets consumed less fast food (Thornton et al., 2013). Chandrabose, Cerin et al. (2019) found that higher walkability scores for a neighborhood (i.e., more interconnected streets) were related to greater physical health (better cholesterol levels and lower weight gain). Mouratidis (2022) found access to local facilities and resources contributed to well-being during COVID-19. In addition, Niu et al.'s (2022) case comparison study, revealed that communities identified as "resilient" included features such as convenient transportation.

Multiple studies examined the impact of built environment characteristics on coping during the COVID-19 pandemic. For children, houses instead of apartments, low building density, and less proximity to major roads were linked to increased outdoor activity during the COVID-19 pandemic (Mitra et al., 2020). Compact, walkable neighborhoods in Ohio were related to lower perceived infection risk (though not directly to well-being) (Ozbilen & Akar, 2023) and greater physical activity among Chinese adults (Wang et al., 2021). Lower building density was related to lower

rates of COVID-19 (A. Zhang et al., 2022) and greater well-being during COVID-19 (Mouratidis, 2022).

Although measures of community disorder often combine social and physical features of the environment, it is possible to focus on the physical aspects. This deficit-focused approach to the built environment can be measured through observations of abandoned vehicles, vacant buildings, litter, broken windows, rates of residential fires (e.g., McWayne, 2003; Williams et al., 2020), or alcohol outlet density (Goldstick et al., 2015; Lamb et al., 2017). These signs of physical disorder were associated with adverse behavioral and mental health outcomes (Caughy et al., 2012; Williams et al., 2020), although McWayne (2003) did not find significant effects on preschool child outcomes. On the other hand, resource indices created by tallying spaces including grocery stores and doctor's offices were linked to well-being. For example, Spielvogel et al. (2021) included indices for health, leisure, and educational/social service assets by zip code. At the bivariate level, more assets were associated with higher well-being (particularly happiness and lower somatic symptoms). However, results varied across resource types and observed measures had different relationships than perceptions of assets. Changes in neighborhood resources were not significantly related to overall well-being, but more complex pathways were significant. For example, poverty was linked to better health outcomes over time through increased levels of general assets (e.g., grocery stores). Inversely, poverty was linked to lower health resources (e.g., doctor offices), which was related to decreased somatic symptoms.

## Discussion

The current scoping review of 87 articles from diverse academic fields provides a view of community-level resources that help us understand well-being in urban environments at the individual and community levels. These resources spanned indicators of social, natural, and built environment characteristics. These are broad concepts, and the review included numerous approaches to measuring community features. Interestingly, measures of green spaces and positive features of the built environment (such as walkability) were consistently related to positive outcomes (see Kondo et al., 2015 for similar results). Neighborhood disadvantage, crime, and disorder were also consistently associated with many negative outcomes. However, not all community characteristics—especially social ones—were associated with better outcomes for individuals or communities. Unfortunately, most research (77%) was confined to North America, but other locales were represented, and this is a needed area for more research.

We still know much less about strengths than risks (or their absence) and how strengths are related to positive outcomes (rather than just the absence of sickness or distress). In contrast to measures of the natural and built environments, social process variables were over-represented by deficit measures. Further, health outcomes were most consistently

related to community indicators of disadvantage, with more mixed or null findings for mental health outcomes across this set of studies. It may be that there are more direct links between environments and individuals' physical well-being, while mental health effects may be filtered through moderating and mediating variables that make main effects less clear. Methodologically, studies of health often used more objective and community-level outcomes while mental health outcomes were more often based on self-reports by individuals. Community-level independent variables may be more robustly (statistically that is) related to community-level measures of outcomes.

One achievement of the movement toward strengths-based social science research has been the creation of positive constructs (meaning-making, gratitude) that are not solely the absence of deficits (such as not misusing substances or not dropping out of school). This review leads us to conclude that although promising work exists in positive measures of communities, especially regarding physical characteristics (natural and built), more could be done to identify characteristics that distinguish strong or healthy communities from those that are merely adequate (see Rockefeller Foundation, 2015 for an example). We note that prior RPM research with individuals has also found more mixed results for measures of the social ecology than for characteristics of individuals (e.g., Hamby et al., 2018, 2020a, 2020b). We need better measures of community relationships. These measures could answer questions such as: (a) How well do people know their neighbors? (b) How often do they interact with neighbors in a friendly way? (c) How many homes on their street have they visited? and (d) How many community events are offered in their neighborhood or census tract?

We note that some measures were problematic and urgently need revising. No index of disadvantage (like the CDC Social Vulnerability Index) should include the percentage of people of color as a negative indicator. Such measures suggest racial bias. For people of color living in those communities, the fact that they are not socially isolated and can see people who look like them may be an important community resource (see, e.g., Safa et al., 2019). It is not appropriate to include factors such as racial makeup of a community without unpacking why a demographic variable would be important. The percentage of residents of any race is less informative than factors like segregation and income inequality, which is at least some improvement over demographics but still limited. Nonetheless, absent more robust inquiry, such analyses contribute to stereotyping and systematic oppression of groups (Hamby, 2015).

## A Fourth Domain for the RPM

Up until now, the RPM has included only elements of the social ecology, such as social support and school climate, and how these can contribute to individual resilience (e.g.,

Hamby et al., 2018, 2020a, 2020b). We propose expanding the model in two ways. First, we propose including the natural and built environments to become a fourth domain of the RPM to represent the resources of the (non-human) environment. Second, described in the section below, we expand the RPM beyond individual outcomes to community ones to create a new and parallel model of community resilience.

Adding the physical environment underscores the importance of these factors as elements of resilience processes. It could also help move beyond the deficit-focused ways that community variables have been linked to individual well-being (Wandersman & Nation, 1998). Given that our review indicates that the natural and built environment are consistently associated with better outcomes for people, past omissions of the physical environment in resilience models are hampering guidance about healing. Further, this could connect human resilience and well-being with climate change and environmental well-being (Palinkas & Wong, 2020). Trauma and climate change are inextricably linked due to increasing natural disasters and changing environments. Trauma can also impede people's ability to respond to the challenges of climate change. Like any potential threat, climate change requires people to harness assets and resources so that they can participate in creating community change and resilience through, for example, collective action. Reducing the burden of trauma can free up assets and resources to address climate change. We believe recognizing a fourth environmental domain will help people realize that they need healthy environments to support their own well-being.

### *The Need for a Parallel Model of Community Resilience*

This review also suggests the foundations for a new and separate community resilience portfolio model (CRPM). Community resilience focuses on group outcomes rather than individual ones. The model would retain a focus on poly-strengths, an array of strengths, assets, or pillars, measured both in quantity and diversity. Some of the group outcomes assessed here include lower rates of numerous health problems, ranging from better infant health to less cardiovascular disease. Many studies also used estimates of community-wide mental health. We encourage future research to also focus on positive indicators of well-being. These pillars can be informed by urban planning models (Cutter, 2016; Rockefeller Foundation, 2015; Moles et al., 2021) that highlight community resilience factors such as access to education and employment, sustainable economy, effective leadership structures and leaders, strategic planning processes, emergency management, civic organizations, spiritual organizations), cultural resources, and markers of and opportunities for citizen engagement and voice). The CRPM could exist separate from but in parallel to the RPM and explore constructs including poly-strengths. Development of

this model could explore whether a new set of domains needs to be established (perhaps strengths related to people, leadership, basic needs, and community identity) rather than the regulatory, interpersonal, and meaning-making that make up the RPM. A richer understanding of community-level resources will help us provide ideas for scalable prevention and intervention policies that can affect whole communities, neighborhoods, and cities.

### *Limitations*

Our study focused on geographic communities, but geography is not the only important context. Research on other communities also needs synthesizing. Further, census tracts or county lines may not match how people perceive or define the boundaries of their community (Spielvogel, 2021). Even though we focused only on urban communities, there were significant differences in how communities were defined, making synthesis challenging. The review may have been limited by our search terms and databases. For example, we did not include terms such as "trauma" or "well-being" and focused on two of many possible databases. As noted in the methods section, the term "community" is mentioned in so many papers that it makes searching for this topic challenging. The review was limited by the exclusion of articles not published in English. While the scoping review was global (articles were not excluded by location), the sample was largely North American. More global research on community strengths is needed. Finally, within the studies reviewed, there were many examples of moderating effects. Often, these were not hypothesized or well-articulated relationships, and findings were rarely consistent.

### *Implications*

We hope the next generation of studies will focus on additional positive community features, pathways, and mechanisms. Few studies tried to capture unique aspects of cities, which are often a source of pride and key reasons people move into or remain in communities. Cultural elements such as food, museums, music, universities, local festivals, and sports teams create a sense of place. Expanding the global reach of community research will likely uncover other vital strengths, such as healthy democratic processes (Kelmendi & Hamby, 2023).

We could not locate any qualitative studies that operated at the community level versus documenting individual perceptions. Perhaps there would be a way to develop themes related to positive master narratives (McLean & Syed, 2016) in various communities using qualitative methods and then compare these themes (qualitatively) across communities. This needs more innovation.

One area for future study would be to find out if key subgroups in a community experience belongingness or other features in the same way. The study on gentrification (Alroy et al.,

2023), which found that white residents experienced gentrification differently than Black and Latino residents, is one step in this direction. We need community-level variables that do not blame residents for problems caused by dysfunctional systems. We also need to unpack variables like rural and urban.

## Conclusion

The current scoping review advances work on resilience by synthesizing research across community-level strengths. Thematically, community-level strengths can be characterized as aspects of the social, natural, and built environments. This expands prior work on the RPM and most other models of resilience, which seldom include natural or built elements of the human ecology. We found, consistent with prior research on individual perceptions of the social ecology (Hamby et al., 2018, 2020a, 2020b), that social elements of the environment showed variable relationships with outcomes. However, some elements of the natural and built environments, such as green spaces and walkability, showed more consistently positive

relationships with outcomes. We propose the physical environment becomes a fourth domain of the RPM.

This study provides an opportunity to build bridges between mainstream work on trauma and resilience, which historically has focused on psychological and sociological factors, and fields such as urban planning and environmental science. Given the increasingly traumatic nature of climate change, such connections will be increasingly important. We also suggest creating a more formal connection between individual and community outcomes by creating the CRPM. The CRPM focuses on group outcomes (neighborhoods, communities, cities) and identifying which community factors best enable groups to thrive. As with individual resilience, we believe a poly-strengths model will support community-level well-being. People, organizations, policies, physical spaces (natural and built), and other resources have a cumulative impact on collective resilience. Although we have focused here on urban communities, the CRPM could be expanded to other communities, including non-geographic ones. A well-mapped understanding of diverse assets can inform resilience planning and support collective care.

## Findings and Implications.

Areas of Community	Key findings	Implications
<i>Social environment:</i> characteristics such as disadvantage, crime disorder, social capital, and collective efficacy.	<ul style="list-style-type: none"> <li>• Often examined using deficit measures.</li> <li>• Individual perceptions more related to well-being than community level.</li> <li>• Collective efficacy and social capital showed links to well-being but many mixed findings.</li> <li>• Lower levels of crime and disorder probably most consistently associated with better outcomes of variables in social category.</li> </ul>	<ul style="list-style-type: none"> <li>• Need to conceptualize how to improve collective efficacy and other strengths-focused social variables at the community level so that they can be translated to prevention and intervention.</li> <li>• Measures need to avoid using demographic factors (such as percentage of people of color in a community) that could reinforce stereotypes.</li> </ul>
<i>Natural environment:</i> characteristics such as geospatial measures of vegetation; access and use of parks; and interventions to create green spaces in vacant urban lots.	<ul style="list-style-type: none"> <li>• Across many different types of measures, greater time in green spaces, greater presence of natural spaces were linked to greater well-being.</li> <li>• Area of most consistent findings related to well-being in the scoping review.</li> </ul>	<ul style="list-style-type: none"> <li>• Need more attention to quality of green spaces and not just presence.</li> <li>• Need to better incorporate “blue space” (open water).</li> <li>• Need for policies and funding to support green and natural spaces.</li> <li>• Natural features in the environment need to be incorporated into the resilience portfolio model as a fourth domain.</li> </ul>
<i>Built environment:</i> Characteristics such as building density and height, size of dwellings, transportation access, and walkability.	<ul style="list-style-type: none"> <li>• A better- built environment (e.g., lower density, more walkability, easier access to supermarkets) was positively associated with positive physical and mental health outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Working on features like walkability holds promise for promoting individual and community resilience.</li> <li>• Built features of communities also need to become part of a fourth domain focused on the environment.</li> </ul>

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## Note

1. Using the term “community” instead of the specific terms above produced 12,033 abstracts without filters and 6,854 with human and English-language filters. That broad search produced a high number of items that were unrelated to the specific topic of this scoping review and so a determination was made to use the previous set of 11 searches.

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**Julia Stavola**, MSCJ (she/her), is a recent graduate student from Boston University, and practices clinical fieldwork at Eliot Community Human Services. Her research focuses on youth violence prevention and intervention, mental health and trauma, community resilience building, and cybercrime victimization. Her previous work has been published in the *International Journal of Cybersecurity Intelligence* and *Cybercrime*.

**Yanfeng Xu**, PhD, is an assistant professor at the University of South Carolina College of Social Work. Dr. Xu's research focuses on improving the well-being of children in kinship care and foster care. Dr. Xu uses nationally representative datasets, linked administrative data, primary surveys, and qualitative interviews, as well as interventions to enhance the well-being of kinship and foster families.

**Sherry Hamby**, PhD, is a distinguished research professor of psychology at the University of the South and Director of the Life Paths Research Center. She is an internationally recognized authority who is known for her work in polyvictimization, violence measurement, and resilience.