2. Collective efficacy and crime in urban neighbourhoods

Rebecca Wickes and Charles C. Lanfear

INTRODUCTION

Collective efficacy theory debuted in criminology in 1997 in Sampson et al.'s (1997) groundbreaking paper 'Neighbourhoods and violent crime: A multilevel study of collective efficacy', published in *Science*. This paper revolutionised the study of neighbourhood crime by charting an innovative approach to examining the social mechanisms associated with neighbourhood violence. Not only did this paper, and the voluminous work that followed, theoretically resolve the distinction between crime and social disorganisation that had hampered scholarship for decades, but it also provided a set of methodological and analytic strategies that moved research from an over-reliance on neighbourhood compositional risk factors (such as concentrated poverty, residential mobility, and ethnic/racial diversity) to adopting explanatory processes that could better explain a neighbourhood's (in)ability to achieve social order.

Approximately one decade after the publication of this paper, Sampson (2008) reflected on collective efficacy's legacy and the potential areas for its future application. In this chapter, we seek to continue this conversation. Applying an implication analytic lens (Lieberson & Horwich, 2008) to the vast body of work that has emerged after the publication of the 1997 *Science* article, one must conclude that there is strong support for collective efficacy theory. Thus, we focus on the associated theoretical and methodological developments and consider the generalisability of collective efficacy theory to explain crime, particularly violence, in contexts outside the United States (US), as well as new frontiers for collective efficacy research. It is our hope that this chapter will provide a historical marker for the evolving journey of one of criminology's most prominent ecological theories.

COLLECTIVE EFFICACY: AN EMERGENT, COLLECTIVE PROCESS

Albert Bandura coined the term collective efficacy in 1986. It was a concept that extended his theory of self-efficacy, whereby an individual's capacity to act was related to their own perceived control and/or abilities. For Bandura (1997, p. 477), collective efficacy, or 'a group's shared belief in its conjoint capabilities to organise and execute the courses of action required to produce given levels of attainments', was a crucial mechanism that explained the variability in group outcomes. In his later work, Bandura theorised that the success of a given group was distinct from a simple aggregation of individuals' perceptions of the group. He identified a range of factors that contribute to a group's collective efficacy, including the group's range of knowledge and skills, structure, level of coordination, internal structure and leadership, and the extent to which group members 'interact with one another in mutually facilitatory or undermining ways' (Bandura, 2001, p. 478).

Tony Earls introduced Robert Sampson to collective efficacy theory in the summer of 1996. After long discussions with Earls about self- and collective efficacy, Sampson began to deeply interrogate what might constitute the 'collective' attributes of collective efficacy and how to effectively capture the collective properties of a group that might impact crime prevention. Strongly influenced by social disorganisation and systemic theories, Sampson turned his focus to the conditions that generate collective expectations. These theories described neighbourhood crime as resulting from attenuated community values and deficient institutions, such as the family and church (Kornhauser, 1978), and/or weak interpersonal ties between residents and poor coordination with organisations, such as local government (Bursik & Grasmick, 1993).[1] This 'led to the discussion of things like prior ties and structural sources like stability (as a positive force) or deprivation (as a negative force), but even more so the link between trust/cohesion and expectations of crime control' (R. J. Sampson, personal communication, November 22, 2023). For Sampson and Earls, and later Raudenbush, a sharper focus on the emergent social processes, such as social cohesion, required measurement that was not reducible to the composition of a given group. As Sampson shared with us, 'a truly COLLECTIVE understanding of efficacy requires thinking about, and measuring, the coordinating or interactive aspects of a group' (R. J. Sampson, personal communication, December 23, 2023, emphasis in original). It is this theoretical refinement that underpinned the novel and innovative ecometric approach to the study of neighbourhoods and continues to characterise the study of collective efficacy and its relationship to crime.

The emphasis on social cohesion and collectively shared expectations about crime control was not a rejection of social disorganisation theory. Sampson did not seek to debunk systemic approaches but rather to develop a critical extension of systemic theories, which at the time could not comprehensively explain the spatial variation in violence in urban neighbourhoods. In this way, collective efficacy was 'subtly and in important ways, different' from earlier theorising (R. J. Sampson, personal communication, November 22, 2023). It was around this time that Sampson was appointed as the Scientific Director for the Project on Human Development in Chicago Neighbourhoods (PHDCN); and with his colleagues, he drew on the key insights offered by Earls, Raudenbush, the late Ruth Kornhauser, social disorganisation theory, and urban sociology more broadly to transform the intellectual direction of neighbourhood effects research. The PHDCN, which captured the intersection between the urban neighbourhood context and the social and psychological development of young people, provided the ideal opportunity to examine collective efficacy theory at scale. The data from the cross-sectional survey of over 8,000 adult residents of Chicago conducted by the PHDCN, integrated with a range of administrative data, allowed Sampson and his colleagues to further develop collective efficacy theory and better explain the variation in violence across Chicago.

Rooted in the social disorganisation tradition, collective efficacy is strongly influenced by the socio-demographic structure of neighbourhoods. Concentrated disadvantage, residential instability, and, to a lesser degree, racial/ethnic heterogeneity and immigration inhibit collective efficacy by depriving the community of resources, disrupting social ties, and impeding the realisation of common values (Sampson, 2012; Sampson et al., 1997). Yet, central to Sampson and colleagues' initial conceptualisation of collective efficacy is a de-emphasis on strong ties and their connection to crime control, which was a central tenet of both the systemic model and social disorganisation theory (Bellair, 2000; Warner & Roundtree, 1997). Sampson (2008, p. 150) argues against the idea of the 'urban village', where interdependent networks prevent crime and disorder. Sampson and colleagues assert that collective efficacy

is not built on dense ties but on working trust. Rather than control occurring primarily via intimate ties, collective efficacy represents the norms of behaviour *and* the shared expectations that norms will be enforced in public space. Thus, collective efficacy recognises that the sanctioners and the sanctioned are often strangers. In other words, where social ties are not in themselves crime inhibiting, collective efficacy – when activated – is specifically geared towards the reduction of crime.

Over the last two decades, Sampson has repeatedly asserted that although social ties are important for an individual's well-being, social networks do not always lead to the procurement of communal resources, nor do they protect against crime, as illustrated in disadvantaged neighbourhoods with scarce resources, where strong social ties do not lead to social control. Sampson (2008) argues that this is because such ties cannot always be leveraged for activities geared towards the public good (see also Browning et al., 2004). Collective efficacy is therefore better described as the *content* of social relations (such as the trust and norms that emerge from such relationships) as opposed to the structure of networks (Sampson, 2012, p. 45). As is evidenced in an extensive body of scholarship, while the social structure of neighbourhoods, including institutions, organisations, and social relationships (Bursik & Grasmick, 1993; Shaw & McKay, 1969), can support (or inhibit) the development of collective efficacy, alone they are insufficient to prevent crime.

BEYOND CHICAGO: THE GENERALISABILITY OF COLLECTIVE EFFICACY IN NON-US NEIGHBOURHOODS

In the US context, there is considerable support for the link between collective efficacy and crime, in particular violence, at both the neighbourhood and micro-neighbourhood levels (Armstrong et al., 2015; Maxwell et al., 2018; Pratt & Cullen, 2005; Weisburd et al., 2020; Lanfear et al., 2020). Studies find that collective efficacy is important for the implementation and/or uptake of community crime prevention programmes (Braga et al., 2018), is predictive of lower intimate homicide rates (Browning, 2002), supports domestic violence help-seeking behaviour (Browning, 2002), and helps to prevent delinquency (Simons et al., 2005). There is emerging evidence to suggest that collective efficacy exhibits a reciprocal relationship with both the socio-demographic structure of the neighbourhood and with crime (Sampson, 2008). This 'reciprocal, self-reinforcing process' (Sampson, 2008, p. 159) occurs over time within neighbourhoods as residents update their collective efficacy based on the crime and disorder they observe (Hipp, 2016; Hipp & Wickes, 2018; Matsueda & Drakulich, 2016). Crime heightens fear of crime and victimisation risk, which in turn leads residents to constrain their social behaviour to minimise this risk. When residents socially withdraw from community life, neighbourhood social control is compromised (Bellair, 2000; Hipp & Wickes, 2018; Liska & Warner, 1991; Markowitz et al., 2001; Sampson & Raudenbush, 1999).

Scholarship also reveals that the levels of disadvantage and crime in nearby neighbourhoods influence collective efficacy. Studies have long demonstrated that crime and poverty are highly concentrated in certain sections of the city, particularly in the US (Peterson & Krivo, 2010; Sampson, 2012; Shaw & McKay, 1969). Thus, neighbourhoods proximate to areas with high levels of crime and disadvantage are likely to experience crime spillovers. Similarly, neighbourhoods proximate to areas with high collective efficacy also experience a spillover effect and consequently report lower crime (Sampson, 2012).

In his *Taking Stock* reflections published in 2008, Sampson states that there is nothing inherent in the theory of collective efficacy to suggest a narrow application to US cities and calls for a cross-cultural approach to test the generalisability of the theory. A decade after the original publication, there was a significant increase in neighbourhood studies globally, which overall provide support for the core thesis underpinning collective efficacy theory in both Western and non-Western contexts. Consistently, community cohesion and a shared willingness to intervene for the common good are associated with lower levels of violence in urban neighbourhoods. However, there are subtle cross-national differences that are potentially attributable to the different economic and political contexts of different nation-states. These differences do not diminish the generalisability of collective efficacy; rather, they highlight the influence of enduring structural attributes of a given place (which will be differentially experienced across national contexts) on shared perceptions of cohesion and expectations of social control. It is worth noting here – and we come back to this point later in the chapter – that the ecometric approach to the measurement of collective efficacy differs across the studies we discuss. The measurement and analysis of collective efficacy has significant implications for research findings; and thus, while we find agreement among many studies, there are methodological differences that are non-trivial.

There are several comprehensive tests of collective efficacy used in English-speaking countries, such as the United Kingdom (UK) and Australia. One of the earliest replications of Sampson and colleagues' (1997) research was the Peterborough Adolescent and Young Adult Development Study (PADS+) (Oberwittler & Wikström, 2009; Wikström et al., 2012). This study included a community survey which was successfully delivered to 6,000 residents living in 518 small neighbourhoods (or 'output areas') in 2003. The community survey contained nearly identical items to capture collective efficacy to those used in the PHDCN. Oberwittler and Wikström (2009) found that the variation in collective efficacy across the output areas was substantial and further that the relationships between area-level socio-demographic characteristics and collective efficacy were not dissimilar to those found in Chicago (see also Wikström et al., 2012).

In other UK-based studies, there is mixed evidence on the link between collective efficacy and crime. For example, Sutherland et al. (2013) examined the mediating influence of collective efficacy between the socio-demographic context and violence across 4,700 London neighbourhoods. Their findings revealed that the socio-demographic correlates (particularly concentrated disadvantage) of collective efficacy were comparable to those found in Sampson and colleagues' (1997) original research. Further, higher levels of collective efficacy were associated with lower levels of violence, although this relationship was not particularly strong. However, a study that drew on calls for service data across Manchester neighbourhoods found that collective efficacy had a limited impact on crime. Lymperopoulou and colleagues (2022, p. 1031) argued that this is because the 'consequential markers of social disorganization emerge from an interplay between the political economy of nation states and their respective welfare expenditure'. They went on to suggest that concentrated disadvantage, which is a core determinant of crime in the social disorganisation literature and a significant predictor of lower levels of collective efficacy, does not always coalesce with other structural features like ethno-racial segregation or concentration and residential instability in countries with centralised welfare systems that enable greater equity across cities and neighbourhoods.

As Lymperopoulou and colleagues (2022) suggest, there are important contextual differences between countries with liberal welfare states. This is evident when considering the

relationship between collective efficacy and crime in the Australian context, where the welfare system is more aligned with the UK than the US. In cross-sectional studies in Australia, the relationship between collective efficacy and violence in Brisbane neighbourhoods was akin to the relationship observed in Chicago neighbourhoods. Using survey data integrated with census data and community crime prevention programme data, Mazerolle and colleagues (2010) found that despite structural and cultural differences between the US and Australia, neighbourhood collective efficacy was significantly related to lower self-reported violent victimisation in both contexts. Later research that employed multiple waves of survey and census data did not reveal a direct relationship between collective efficacy and crime over time (Hipp & Wickes, 2017). Rather, this study showed a strong reciprocal relationship between collective efficacy and economic disadvantage and between economic disadvantage and violence. We return to this later in the chapter.

Across Asia, there is broad support among scholars for the association between collective efficacy and crime. In China, collective efficacy is a protective factor against crime (He & Messner, 2020; Jiang et al., 2013; Zhang et al., 2007). In a cross-sectional survey conducted in Tianjin, Zhang and colleagues (2007) identified that higher levels of collective efficacy were associated with lower reports of burglary victimisation. Jiang and colleagues (2013), building on the work of Zhang et al. (2007), also found that perceptions of property crime were lower in collectively efficacious neighbourhoods in Guangzhou, China.

There are fewer studies that examine the collective efficacy–crime relationship in the Global South compared to the Global North. In Latin America, Arias and Montt (2018) studied the influence of collective efficacy and other neighbourhood factors across three informal settlements in urban Colombia, Peru, and Chile. The authors found high levels of collective efficacy across these informal settlements and detailed the various cultural and contextual factors that impact it. Arias and Montt offer an important understanding of collective efficacy in a developing context, and their results reflect many of the core issues (such as historical police corruption and internal migration) raised in other comparative studies (Oteng-Ababio et al., 2017; Cho, 2017; Jiang et al., 2013). The findings of this investigation are consistent with those produced by Oteng-Ababio et al.'s (2017) application of collective efficacy to understand the variation in crime levels in neighbourhoods in Ghana – specifically, that collective efficacy can protect low-income areas from crime, but cultural and historical factors influence the development of shared cohesion, expectations, and, indeed, the actual neighbourhood structural composition in crucial ways.

Reviewing the studies conducted in the Global North and the Global South, structural and cultural differences explain some of the variation in the strength of the relationship between collective efficacy and crime. As we have observed previously, outside the US, the most disadvantaged communities may be neither diverse nor residentially unstable (Bailey & Livingstone, 2007; Garner, 2011). Globally, the spatial segregation of concentrated poverty and/or income inequality differs across cities (van Ham et al., 2021). Yet, from surveying the existing collective efficacy scholarship, what we can say with some confidence is that economic disadvantage is negatively associated with collective efficacy in neighbourhoods across national contexts, although the strength of the relationship varies (Jiang et al., 2013; Mazerolle et al., 2010; Sampson & Wikström, 2008; Wikström et al., 2012). It is also evident that outside the US, the relationship between the concentration of particular ethnic minority groups or the level of ethnic diversity in urban neighbourhoods and collective efficacy is variable. In some countries, ethnic and racial concentration may not be as critical to the development of

collective efficacy, or social cohesion more broadly defined (Brunton Smith et al., 2014; Hipp & Wickes, 2017; Twigg et al., 2010; van der Meer & Tolsma, 2014). The residential segregation of race and poverty in the US (Sampson & Wilson, 1995; Sampson, 2012) is profound when compared to other advanced Western democracies (van Ham et al., 2021). Residential turnover is yet another factor that does not reliably predict lower collective efficacy. In the context of Australian cities, residential instability does not predict low collective efficacy (Mazerolle et al., 2010).

The cross-cultural differences evidenced in the scholarship are also a function of how collective efficacy is measured (both in terms of the questions that are asked and the methods used to identify a latent, collective attribute of a neighbourhood) and what administratively constitutes a neighbourhood, as we discuss in the next section. To our knowledge, few studies specifically test for measurement equivalence. There is only one study that we are aware of that explicitly tested for cross-cultural measurement equivalence (Gerstner et al., 2019). Gerstner and colleagues (2019) evaluated the consistency in the measurement of collective efficacy using survey data from 12,900 residents living in 436 neighbourhoods across four cities in Germany and Australia. The two studies – one in Germany and one in Australia – used identical items to measure collective efficacy. Comparable data capturing ethnic diversity was quite difficult to source, and thus the authors used the percentage of people with foreign citizenship as a proxy. They then proceeded with a multi-level confirmatory factor analysis to assess configural, metric, and scalar invariance. The results provide strong support for configural and metric invariance, but there was no evidence to support scalar invariance. When we look at the different neighbourhood-level predictors of collective efficacy across neighbourhoods in the two countries, the socio-structural conditions in Germany explained significantly more variation in collective efficacy compared to Australia. Although disadvantage was associated with lower collective efficacy in both the German and the Australian neighbourhoods, ethnic diversity and residential stability were less impactful for collective efficacy in the Australian context.

FROM PSYCHOMETRICS TO ECOMETRICS

The original studies on collective efficacy – and the research under the PHDCN – introduced important advancements in community research methods. The most widely recognised advance is the adaptation of concepts and methods from psychometrics to the quantitative measurement of the social and physical characteristics of settings such as neighbourhoods – an approach Raudenbush and Sampson (1999b) termed 'ecometrics'. The ecometric approach has two closely related goals. The first is to estimate ecological measurements of settings such as neighbourhoods based on error-prone indicators collected from lower-level units, such as residents' survey responses (Sampson et al., 1997) or researchers' assessments of block faces (Sampson & Raudenbush, 1999). This includes correcting for measurement error and unreliability that would otherwise attenuate estimated associations with ecological variables (that is, those measured using crude aggregations; see Raudenbush & Sampson, 1999a). The second goal is to determine whether measures can be reliably estimated at different levels of analysis and how to maximise this reliability through the design of assessment tools and sampling. This includes determining whether a measure is ecologically valid – that is, whether

it captures an underlying latent variable – as well as what indicators to use and how many observations are needed in each ecological unit to produce useful measurements.

Applied to collective efficacy, Sampson et al.'s (1997) ecometric measurement approach treats residents as informants whose responses to collective efficacy survey items reflect a combination of the true level of collective efficacy, idiosyncratic error, and systematic bias in their perception related to their demographic background. For example, if homeowners perceive informal control to be stronger on average than do renters, then collective efficacy will be overestimated in neighbourhoods with higher rates of home ownership. Sampson et al. measured collective efficacy using a three-level model that corrects for missing data and measurement error in survey responses, individuals' systematic bias in perceptions (and thus differential composition of neighbourhoods), and attenuation in neighbourhood-level associations due to unreliability. Despite the advantages of this measurement approach, empirical research on collective efficacy still often does not estimate ecological reliability – which is critical to establishing the validity of ecological measures – nor does it correct for bias and attenuation due to measurement error, unreliability, and compositional differences between neighbourhoods. This may be due in part to the complexity of multi-level measurement models and the absence of publicly available software implementations in common platforms such as R, Stata, or SPSS.

A less well-recognised, but equally important contribution of the PHDCN was the careful attention paid to the construction of ecologically valid units and sampling within those units. The PHDCN's neighbourhood clusters – primary strata for the sampling design – were assembled from contiguous and demographically homogeneous census tracts with boundaries informed by geography and local knowledge (Sampson, 2012, pp. 78–80; Sampson et al., 1997, p. 919). Attention to units is important because boundaries constructed arbitrarily or for other purposes may not correspond to those that ecological processes operate within, leading to unreliable estimates or misleading inferences (Openshaw, 1984; Hipp, 2007; Oberwittler & Wikström, 2009).[2] For example, raters that perceive different neighbourhood boundaries may be assigned to the same geographic unit; if their perceptions of collective efficacy differ due to these boundary differences, it will inflate measurement variance within that geographic unit, reducing the reliability of collective efficacy estimates. This is problematic as the statistical power to detect associations with neighbourhood latent variables is proportional to reliability (Raudenbush & Sadoff, 2008). Similarly, if raters that perceive similar neighbourhood boundaries are assigned to different geographic units, it may induce spatial dependence between these units, resulting in invalid standard errors (Anselin, 1988). While better to address during the research design stage, both unreliability and spatial dependence may be addressed at least in part by using appropriate estimators (Raudenbush & Sadoff, 2008; Morenoff et al., 2001). In the PHDCN, stratified random sampling was then used to draw a representative sample of households from each neighbourhood cluster of sufficient size (between 20 and 40) to obtain reliable estimates of respondent characteristics and perceptions in every cluster (Raudenbush & Sampson, 1999b). Such attention to sampling design has rarely been paid in subsequent studies.

While the initial research on collective efficacy was methodologically sophisticated for its time, later research continuing the ecometric tradition has made many significant advances in measurement. One important vein of research examines how perceptions of collective efficacy develop. Research focussing on residents suggests that these perceptions are shaped in part by observations of crime and disorder (Hipp, 2016; Hipp & Wickes, 2018; Matsueda

& Drakulich, 2016); residents infer that social control is weak if they see crime and disorder and strong if they do not. Importantly, Matsueda and Drakulich (2016) found that the association between expectations for social control and violent crime was underestimated in models that did not adjust for respondents' past observations of disorder. Less is known about how potential offenders perceive collective efficacy, which is important if collective efficacy inhibits crime via deterrence. Sampson et al. (1999, p. 657), for example, suggest that children have more accurate perceptions of levels of child-centred social control than the adults who typically respond to community surveys. Given the evidence that most offending occurs near where offenders live (Bernasco & Block, 2009) or in locations with which they are otherwise familiar (Carter & Hill, 1979), offenders should have at least as accurate perceptions of social control capacity as other residents.

While most ecometric research has considered inter-rater disagreement as a source of unreliability, a small body of literature examines how disagreement and uncertainty around perceptions of collective efficacy may be related to crime and disorder (Brunton-Smith et al., 2018; Hipp, 2016). For example, using location-scale models, Brunton-Smith et al. (2018) found that the level of agreement among raters within neighbourhoods moderated the association between collective efficacy and violent crime, risk avoidance, and worry about victimisation in London neighbourhoods; collective efficacy was negatively related to crime mainly where residents had similar perceptions of collective efficacy. Hipp (2016), in contrast, measured uncertainty in relation to collective efficacy as the average proportion of 'I don't know' answers to items measuring expectations for social control. Neighbourhoods in which residents were less certain about whether their neighbours would intervene had higher levels of crime and disorder in the following year.

Another important vein of research has explored modifying the original collective efficacy scales to examine task specificity or to distinguish expectations for social control from social cohesion. For example, Wickes et al. (2013) separated collective efficacy into separate batteries of questions capturing the task-specific expectations that residents would intervene against child misbehaviour (such as children skipping school), violence (such as a mugging), or political or civic problems (such as a brothel opening). Similarly, Uchida et al. (2014, p. 40) created and validated an extended collective efficacy scale that included additional indicators to capture the 'ability of neighbourhood residents to marshal social and political capital to address a neighbourhood problem'. These extended or task-specific scales may better capture the capacity of neighbourhoods to influence institutional actors; they would be particularly suitable for research on policing and the built environment, as discussed later in this chapter.

Related to this is a stream of research considering whether social cohesion and trust should be separated from expectations for control (Gau, 2014; Hipp, 2016; Wickes et al., 2013). In the original research on collective efficacy, these concepts were described as conceptually distinct but were combined for the purposes of analysis because they captured the key domains of collective efficacy and were empirically redundant at the neighbourhood level after correcting for measurement error (Raudenbush & Sampson, 1999b).[3] However, this combination was critiqued in a number of subsequent studies that advocated for the separation of expectations for social control from cohesion and trust based on their being empirically distinct; for example, these studies found that they load on separate factors at the individual level (Gau, 2014) or exhibit different associations with other neighbourhood-level variables (Rhineberger-Dunn & Carlson, 2009). As these recent developments indicate, careful attention to measurement is still vital to research on collective efficacy.

SHARED EXPECTATIONS OF CRIME CONTROL AND CRIME-CONTROLLING ACTIONS

As we have demonstrated herein, collective efficacy is defined as an emergent social process that represents the shared belief in the capacity for the pro-social regulation of crime and/or other unwanted behaviours. Although social ties may facilitate these expectations, in and of themselves, social ties are insufficient to promote crime-controlling actions. Drawing on the literature, collective efficacy is therefore best understood as an *orientation* towards collective action rather than the specific actions taken to prevent crime. Theoretically, collective efficacy, as a shared perception of what might happen if something goes awry, should promote concrete actions in response to a problem. Studies concerned with unpacking the relationship between a neighbourhood's collective orientation for action and crime are predominantly concerned with three relationships. The two most frequently considered are the association between a neighbourhood's collective efficacy and the informal social control actions of residents and the association between collective efficacy and policing. Equally important, and an emerging area of scholarship, is the relationship between collective efficacy and its deterrent effect on potential offenders. We discuss each in turn below.

The Exercise of Informal Social Control

Collective efficacy is theorised to reduce norm-violating behaviour through both external and internal mechanisms of informal social control (Sampson, 2012; Sampson et al., 1997). In the external mechanism, norm violations are interrupted by the direct interventions of residents, such as verbal sanctions or warnings. In the internal mechanism, norm violations are prevented either by the offender's anticipation that residents will intervene (that is, through deterrence) or by their adherence to context-specific norms of appropriate behaviour. This combination of internal and external mechanisms is common to social disorganisation models based on control theory (Bursik & Grasmick, 1993; Kornhauser, 1978). Collective efficacy is theorised to inhibit serious crime, such as homicide, directly through these same mechanisms but also indirectly by preventing or removing the conditions from which serious crime emerges, such as unstructured socialising among adolescents (Maimon & Browning, 2010; Sampson et al., 1997, p. 918).

The concept of informal social control – although central to social disorganisation and collective efficacy theories (Bursik & Grasmick, 1993; Kornhauser, 1978; Sampson et al., 1997; Shaw & McKay, 1969) – varies widely across the literature. Attempts to define it are 'wide-ranging and eclectic' (Bellair & Browning, 2010, p. 500). Informal social control actions may involve 'gossip', 'scolding', 'disapproval', and 'face-to-face discussion' (Black, 1984, pp. 5–7). They also might involve working with neighbours to resolve a problem, the surveillance of others' property and homes, calling the police, or leveraging other organisations to address the problem (Bellair & Browning, 2010; Greenberg & Rohe, 1986; Warner, 2007).

Informal social control actions are dependent, at least in part, on the social network of the individual doing the action. Their social network may comprise friendship ties, neighbourly acquaintances, and links to organisations both internal and external to the neighbourhood. As Bursik and Grasmick (1993) noted 30 years ago, ties matter for informal social control actions because they represent both a reason to act and a resource for action (Bursik & Grasmick, 1993).

How social ties may foster collective efficacy and individual social control actions has been elaborated theoretically. For example, Matsueda (2013) presented a rational choice micro-foundation for the emergence of collective efficacy using Coleman's theory of social capital, collective action, and the public good (1990); in this view, the norms and sanctioning actions related to collective efficacy may emerge as a positive externality from neighbours making individual-level investments in social capital, such as exchanging favours. Similarly, Nagin et al. (2023) used the economic literature on contributions to public goods, such as social control, to connect collective efficacy to individual decisions to engage in social control efforts that are reactive (such as sanctioning) or proactive (such as via neighbourhood watch programmes).

Until recently, empirical evidence on the relationship between collective efficacy and the kinds of actions that residents take to resolve a problem was relatively scant. In several studies, scholars empirically defined collective efficacy as shared expectations for action but conceptualised it as the propensity of residents to engage in direct social control interventions under the assumption that perceptions and actions are tightly linked, although later studies did not necessarily support this. Wickes and colleagues (2017) provided one of the earliest explications of the relationship between neighbourhood collective efficacy and an individual's informal social control actions. In this paper, the authors integrated administrative and survey data on 1,310 residents reporting 2,614 neighbourhood problems (which included drug problems, public drinking, loitering, and youth getting into trouble) across 148 neighbourhoods in Brisbane, Australia. Controlling for factors that might influence an individual's actions, Wickes et al. examined the independent influence of neighbourhood collective efficacy and one's own access to social networks and the subsequent actions taken in response to an identified problem. These informal social control actions were grouped into parochial (contacting a community group, discussing the problem with neighbours, and intervening directly) and public (contacting a formal agency like the police or local government representatives). In their analyses, Wickes et al. first considered the impact of neighbourhood ties and the density of an individual's own social ties on informal social control action. They then explored the relationship between shared expectations for informal social control at the neighbourhood level and residents' self-reported informal social control actions. Next, they examined the relationship between shared expectations for informal social control, neighbourhood social ties, the density of residents' own social ties, and parochial and public informal social control action. Overall, this study did not find a significant relationship between neighbourhood social ties or shared expectations for informal social control and resident action. In fact, Wickes et al. (2017) did not find that neighbourhood context predicted the actions people took in response to neighbourhood issues. Instead, it was an individual's own resources and networks that promoted crime-controlling actions.

Collective Efficacy and Policing

The relationship between collective efficacy and policing is the subject of ongoing debate. Researchers have proposed two general theoretical explanations for how collective efficacy may be related to different aspects of policing, including police effectiveness in reducing crime or residents' perceptions of the police. First, policing may affect collective efficacy either directly, by influencing residents' willingness to intervene, or indirectly, by affecting social-structural antecedents such as social interaction or shared norms (Yesberg et al., 2023). Second, collective efficacy may affect policing by influencing effectiveness, trustworthiness,

or legitimacy, whether of the police specifically (Jackson et al., 2012) or the legal system more generally (Kirk & Matsuda, 2011).

In the first case, Yesberg and Bradford (2021) identified three mechanisms proposed in the literature through which policing may increase collective efficacy: (1) by being perceived as trustworthy – that is, effective and acting in the interests of the community, which reduces the perceived risks and increases the expected benefits of informal interventions (Silver & Miller, 2004; Drakulich & Crutchfield, 2013; Kochel & Weisburd, 2019); (2) by being perceived as legitimate – that is, having a valid claim to power, which increases the public's willingness to cooperate with police and promotes a commitment to shared norms and values that form a foundation for collective efficacy (Nix et al., 2015); and (3) by using specific strategies such as community policing to foster interaction between residents and police or increase access to police. While the authors claim support for each mechanism in different studies, Yesberg et al.'s (2023) systematic review finds consistent support only for the trust mechanism. Related research suggests legal cynicism – 'a cultural frame in which people perceive the law, and the police in particular, as illegitimate, unresponsive, and ill equipped to ensure public safety' (Kirk & Matsuda, 2011, p. 447) – reduces collective efficacy (see also Kirk & Papachristos, 2011).

In the second case, the literature proposes several mechanisms by which collective efficacy may impact policing. Sampson and colleagues (Sampson, 2012; Sampson et al., 1997) describe collective efficacy as promoting all forms of neighbourhood social control interventions, including calls to police. This is important because most policing is reactive, making effective policing reliant on members of the public to call the police (Black, 1971; Gottfredson & Gottfredson, 1987). One potential result of this is that if collective efficacy impacts rates of crime reporting, then police-recorded crime will more closely match the real underlying crime rate in areas with high collective efficacy – and thus attenuate its apparent crime-reducing effect (Kirk & Papachristos, 2011). Another potential result is that if residents of neighbourhoods with low collective efficacy are unlikely to intervene in problematic situations, this will result in a greater proportion of proactive policing actions; proactive policing, in turn, is less likely to be perceived as effective or legitimate by residents (Fagan & Davies, 2001; Tyler et al., 2015). Nix et al. (2015) also suggest an alternative mechanism with a similar effect: police officers may be less motivated to respond effectively to crime when they perceive residents as being unwilling to engage in social control. Similarly, Hays (2011) argues that police misconduct will tend to be higher in neighbourhoods with low collective efficacy because police are aware that residents are unlikely to report their misconduct or effectively organise to combat it; that is, the same incapacity to address conventional crime extends to offending by police.

Others have claimed that the link between collective efficacy and perceptions of the police is in part because residents infer that the police are effective due to the absence of crime or disorder, even if that absence is due to effective informal social control (Jackson et al., 2012), much as residents appear to base their assessments of collective efficacy in part on crime rates or visible disorder (Matsueda & Drakulich, 2016; Hipp, 2016). For example, Jackson et al. (2012, p. 212), in their study of Londoners, found that collective efficacy is a powerful predictor of individuals' perceptions of the effectiveness and fairness of policing and of their obligation to obey the police, which the authors interpret to mean that 'When order is being maintained in the community, by subtle, informal social controls, the police get some of the credit, and their moral authority seems to be enhanced.' Wu and Liu (2023) echo this interpretation based on their finding that perceptions of collective efficacy among residents of

a southeastern Chinese city were associated with an increased willingness to cooperate with the police.

The extant literature suggests that collective efficacy is related to multiple aspects of policing but raises many questions for future research. Most prominently, as many researchers in this area recognise (Kochel, 2012; Nix et al., 2015), the causal ordering of collective efficacy and policing measures is mostly assumed rather than empirically tested. This causal ordering may be complicated, and multiple mechanisms may exist simultaneously. Carr's 'new parochialism' (2003; 2005; 2012) provides an example: when residents of one Chicago neighbourhood found that changes in the local context (e.g., the emergence of gangs) rendered their direct interventions insufficient for controlling crime – that is, their collective efficacy was reduced – they turned to the police and other external institutions to facilitate more effective informal control and act as a buffer between themselves and threatening situations. This, of course, may only have occurred because residents viewed the police as trustworthy, legitimate, and effective (Carr et al., 2007).

The Deterrent Effect of Collective Efficacy

Researchers have examined how collective efficacy relates to the active social control pathways described above: residents intervening either directly or indirectly by calling on or working with police. Collective efficacy may also influence individuals' decisions to offend through a passive or internal social control pathway. For example, individuals may be deterred from offending because they perceive a high likelihood of residents intervening to enforce norms (Wikström et al., 2012). Earlier research in the social disorganisation tradition (Shaw & McKay, 1969; Kornhauser, 1978) emphasised socialisation, focussing on the neighbourhood conditions that produce criminality and examining where juvenile delinquents lived rather than where they offended. In contrast, most existing research indicates that collective efficacy reduces offending by regulating behaviour situationally – restraining crime by residents and non-residents alike, but only in the focal neighbourhood – rather than by reducing criminality, which would inhibit crime by residents but would do so even outside the focal neighbourhood.

For instance, despite collective efficacy being strongly associated with neighbourhood crime rates, Sampson et al. (2005) found self-reported offending by youth was unrelated to the level of collective efficacy in their neighbourhood of residence. This implies that young people who live in collectively efficacious neighbourhoods offend, but they offend elsewhere, where social control is weaker. This is further supported by evidence that neighbourhood collective efficacy is negatively related to the offending behaviour of non-resident robbery offenders (Bernasco & Block, 2009) and crime-prone youth (Wikström et al., 2012). Research using situational action theory does, however, find that collective efficacy interacts with criminal propensity (Wikström et al., 2012)[4].

The above findings imply a different role for collective efficacy than is suggested by Janowitz's (1975) definition of social control – invoked by Sampson et al. (1997) – as the capacity to regulate group-member behaviour. Rather, collective efficacy appears to regulate both member and non-member (non-resident) behaviour within the neighbourhood, but it does not regulate member behaviour outside the neighbourhood. In this way, and in contrast to classic social disorganisation theory, collective efficacy theory speaks primarily to where and how often offending occurs rather than how individuals become involved in crime (Bottoms, 2018).

NEW DIRECTIONS FOR COLLECTIVE EFFICACY THEORY

In 2008, Sampson (2008) reflected on the underlying social mechanisms that influence crime and disorder within urban neighbourhoods. In particular, he reviewed the different ways his collective efficacy theory has been applied and identified key methodological issues and areas for future research. Sampson's (2008) chapter represents an important milestone in the legacy of collective efficacy theory and highlights four areas for research: understanding collective efficacy as a factor that is independent from the socio-demographic makeup of a community, understanding the discriminant validity of collective efficacy, examining collective efficacy in a comparative context, and investigating the role of technology in building and maintaining collective efficacy. As we have reviewed herein, scholars have explored the first three areas. Less advanced is research into how technology might influence collective efficacy, and thus this remains an important topic deserving of further investigation. In response to Sampson's suggestions, we argue that a stronger emphasis on the life course of urban neighbourhoods and a more nuanced, granular approach to the association between the built environment and collective efficacy are needed. As we discuss below, a neighbourhood's life course and the built environment are deeply entwined.

In his 2012 presidential address, Sampson (2013, p. 12) called for research on the 'life course of place' – that is, multigenerational and longitudinal studies of the cumulative effects of neighbourhood compositions and inequalities. However, longitudinal studies of collective efficacy are rare. Understanding the life course and trajectory of collective efficacy is important, particularly since so little is known about the causal pathways between what residents do in response to problems or unwanted behaviours and crime and the concentration of other problems. While Schmidt et al. (2013) found collective efficacy to be stable over time, this finding is challenged by the work of Kochel and Weisburd (2019), Pei et al. (2022), Wickes et al. (2017), and Zahnow et al. (2022), whose work demonstrates the dynamic nature of collective efficacy. In fact, both Kochel and Weisburd (2019) and Pei et al. (2022) show that it is possible to increase collective efficacy over time, while Zahnow et al. (2022) evidenced that collective efficacy can increase *or* decrease depending on neighbourhood spatial changes. Wickes and colleagues (2017) have revealed that in the aftermath of a disaster, collective efficacy can increase as disaster events necessitate collaboration and cooperation among residents – thus, the 'doing' of collective efficacy becomes visible to the broader community.

Hipp and Wickes (2017) also found collective efficacy to be dynamic, although not directly related to violence longitudinally. They hypothesised that this may be due to a more indirect influence of collective efficacy on violence through its impact on disadvantage. Hipp and Wickes argue that collective efficacy, disadvantage, and violence are connected, mutually reinforcing, and spatially patterned, whereby levels of concentrated disadvantage in surrounding areas exert an additional negative effect on collective efficacy over time. These authors state that 'spatially disadvantaged neighbourhoods are particularly hard hit regarding their sense of an ability to work together' (801–802). A further insight from their research was that neighbourhoods with higher levels of collective efficacy at one time point had lower levels of disadvantage (using the same census measures) at a later period. This finding in particular highlights the enduring effects of collective efficacy and provides some support for Sampson's (2012) claim that there are persistent and enduring cognitive landscapes within neighbourhoods that promote the cultural transmission of collectively efficacious norms and actions over time (see also Bursik, 2017). The findings of Pei et al. (2022) lend support to this hypothesis,

in demonstrating that collective efficacy is associated with changing neighbourhood structural characteristics. Finally, Prowell (2022) offers a unique perspective on longitudinal collective efficacy, examining the longitudinal impact of neighbourhood collective efficacy on the resilience of Black American youth. Her findings indicate that collective efficacy is influential in the resilience and delinquency trajectories of Black youth, suggesting that collective efficacy may be particularly important in preventing juvenile delinquency (Simons et al., 2005).

A key hypothesis to emerge from this scholarship is that neighbourhood collective efficacy predicts residents' efforts to influence local institutions, such as organising a referendum to shut down a problematic bar or petitioning housing authorities to demolish a house used as a drug venue (Sampson & Raudenbush, 1999, p. 612). Collective efficacy is thus theorised to promote resident actions that further the goal of reducing crime and disorder, whether intervening personally, calling police, complaining to public agencies, or organising politically (Sampson & Raudenbush, 1999, p. 612). These actions may directly or indirectly change the social and physical conditions of the neighbourhood. When these changes are persistent, collective efficacy at an earlier time point may be as consequential (or more) than present collective efficacy for shaping neighbourhood context. Yet we know that much of the action that shapes the neighbourhood context occurs far away, in boardrooms, legislatures, and planning offices, undertaken by actors with little interest in neighbourhood quality of life (Logan & Molotch, 1987; Dreier et al., 2014). Collectively efficacious action by residents to maintain or improve their neighbourhoods is often in resistance to these outside forces (Einstein et al., 2020). As Sampson (in press, p. 437) summarises, 'neighborhood structures are a persistent feature of urban systems that both mediate and moderate macro (e.g., political, economic, legal) structures and large-scale social changes, and without effective policy intervention, neighborhoods will perpetuate structural inequality.'

From these findings, one could conclude that over a sufficiently long period, every neighbourhood social and physical characteristic is endogenous. This is because actors recognise the relationship between perceived problems and the physical and social characteristics of neighbourhoods, and they act to address both the problems and what they perceive as their underlying causes. When problems appear intractable, residents cease making interventions, and those able to do so are likely to leave the neighbourhood – further concentrating disadvantage. Thus, the capability of residents to act efficaciously to address perceived problems is a key mechanism relating social-structural (dis)advantage to crime, disorder, and neighbourhood change, including change to the built environment.

Collective efficacy scholarship has only recently examined the relationship between collective efficacy and the physical structure of neighbourhoods. The first paper to do so considered the intersection of different land use types, the socio-demographic context of the neighbourhood, collective efficacy, and civic actions (Corcoran et al., 2018). The authors created items representing novel land use features to capture what they referred to as social conduits, social holes, and social wedges. In this schema, social conduits refer to land uses that promote interpersonal exchange, whereas social holes represent underdeveloped places or places closed to the public, and social wedges represent land features that create impermeable barriers to mobility and thus to social exchange. Integrating survey data from 4,132 residents from 148 neighbourhoods in Brisbane, Australia, with land use data and census data, Corcoran et al. (2018) investigated how different types of land use features either facilitate or impede collective efficacy. This cross-sectional study found that neighbourhoods with a greater concentration of 'social conduits' had higher levels of collective efficacy and, moreover, residents'

self-reports of civic actions were higher in these areas when compared to neighbourhoods with fewer social conduits.

More recently, Lanfear (2022) proposed that neighbourhoods with high collective efficacy in the past have low crime in the present, in part because residents, and presumably local businesses and government, prevented and removed criminogenic features of the built environment such as abandoned buildings. Drawing on data from the original PHDCN community survey, Lanfear (2022) found that neighbourhoods with high collective efficacy in 1995 had fewer criminogenic properties in 2003 – and this accounted for the association between past collective efficacy and present crime. Lanfear argues that residents can and do work together to influence urban development, which has consequences for safety, liveability, and neighbourhood change.

Lanfear's (2022) study makes an important contribution to the collective efficacy literature by looking at the relationship between collective efficacy at one time point and the physical environment of the neighbourhood several years later. Yet the data preclude an investigation of how collective efficacy might also change over time and whether and how such changes are a function of changed land use in the neighbourhood. In the only study that has accessed longitudinal land use and survey data, Zahnow and colleagues (2022) consider the differential influence of different types of social conduits, such as those that promote opportunities for social network development (referred to as anchoring and local exposure conduits) and those that are likely to bring large groups of people together at scheduled times, like train stations, cinemas, and restaurants (referred to as scheduled social conduits) on theft and nuisance crimes. They argue that additions, removals, or changes in the arrangements of any of these social conduits might destabilise collective efficacy, which in turn could lead to higher crime. Although the authors did not find a direct relationship between changes in collective efficacy and increases or decreases in the concentration of land uses that promote opportunities for social network development, they did find that increases in undeveloped land and land uses that were not accessible to the public led to decreases in collective efficacy over time. Further, their results demonstrate a strong link between decreases in collective efficacy and increases in the incidence of theft and nuisance crimes.

Understanding how social processes (such as collective efficacy), social structure, and the physical environment change and influence each other over time remains a key priority for urban scholars. There are so few longitudinal studies of collective efficacy that tests of temporal relationships are restricted by the infrequency of data collection, which is largely a consequence of funding limitations. Hipp and Wickes (2017) were able to assess the reciprocal relationships between collective efficacy, disadvantage, and violence across three different temporal periods and found that the relationships looked different in different time lags. For example, the association between collective efficacy and disadvantage only became apparent at the five-year lag. As Taylor (2015) recognised nearly a decade ago, time is a critical factor shaping the causal processes that may lead to changes in neighbourhood crime. We completely agree with Taylor's position; however, the reality is that studies like the PHDCN and the Australian Community Capacity Study require significant financial investment. Although there are numerous administrative data sets now available and suitable for longitudinal analyses, they provide imperfect proxies for the shared perceptions and the individual and collective actions people take to prevent crime in their neighbourhood. While we contend that a life course approach to urban neighbourhoods based on proper measurement in different cities

with different histories is critically important, finding the resources to embark on this research journey is no small feat.

CHAPTER SUMMARY

The goal of this chapter was to highlight the significant advances in the study of urban neighbourhoods attributable to the introduction of collective efficacy. As we have demonstrated herein, collective efficacy is a core theoretical framework from which to understand the spatial variation in neighbourhood problems such as crime. Our hope for this chapter was to critically engage with the voluminous literature that seeks to test, expand, and challenge collective efficacy theory. We have focussed on what we consider to be the most rigorous studies of collective efficacy and did so by freeing ourselves from 'inappropriate notions of what results should look like if the theory is "true" or what it should look like if the theory is "false"' (Lieberson & Horwich, 2008, p. 3). Instead, we gathered the most appropriate evidence to identify the implications of collective efficacy theory empirically, methodologically, and contextually.

Our review reveals that the scholarly advances in relation to collective efficacy are considerable, yet there is more to do. This chapter demonstrates that we do not yet have a full understanding of the 'dynamic process of neighborhood structural change' and the 'mechanisms of social reproduction and cultural continuity' (Sampson, 2013, p. 4). Moreover, neighbourhood-focussed research does not always adopt a 'systematic method of data collection' (Sampson, 2013, p. 4). How social media influences collective efficacy and crime remains relatively unexplored, and we do not have a deep understanding of how shared perceptions lead to specific crime-controlling actions in different cultural contexts. Scholarship on the connection between the built environment, collective efficacy, and informal social control actions is also in its infancy. Physical places, particularly public places, provide opportunities for safety and inclusion. The ebb and flow of people, the objects that fill public places, and the practices and meanings that are enacted and shaped within these places provide insights into collective life. The Chicago School has a rich intellectual history in the study of public places. The systematic social observations that characterised the early collective efficacy research demonstrate the strong association between what is observed in public places and spaces and perceptions of crime and collective efficacy. We suggest there is a need to examine how these places – and their social rhythms – change over time and what this means for collective efficacy and crime.

In summary, our observations of the literature reveal the enduring relevance of collective efficacy in explaining the concentration of crime, particularly violence, in urban neighbourhoods. Of note is how the structural characteristics of a given neighbourhood influence and shape perceptions of collective efficacy. Outside the US, there is significant evidence pointing to the pernicious effect of disadvantage on collective efficacy. This provides overwhelming support for Sampson's call for a focus on neighbourhood context with a clear line of sight to the urban systems and macro structures that shape inequality within and across urban neighbourhoods in the US and in countries around the world.

NOTES

1. See Sampson (2012 pp. 149–154) for a detailed discussion of the intellectual history of social disorganisation, the systemic model, and collective efficacy.
2. Sampson et al. (1999, pp. 638–639, footnote 3) reported that the original PHDCN-CS asked respondents to name and draw their neighbourhoods on a map and that their results were not substantively affected by adjusting for neighbourhood name or size.
3. '... the correlation between social control and social cohesion, disattenuated for measurement error, was $r = .88$ … The two sets of items appeared closely linked to the larger notion of collective efficacy (Sampson et al., 1997). Thus, the two measures were combined to create a more parsimonious, reliable, and readily interpretable measure …' (Raudenbush & Sampson, 1999b, pp. 9–10).
4. We note that Maimon & Browning (2010) find that collective efficacy increases the unstructured socialisation of individuals (though where this socialisation occurs is not specified) and is positively related to crime (again where crime occurs is not specified), but this holds only for young people living in low collective efficacy neighbourhoods.

REFERENCES

Anselin, L. (1988). *Spatial econometrics: Methods and models* (Vol. 4). Dordrecht: Springer. https://doi.org/10.1007/978-94-015-7799-1

Arias, E. D. & Montt, X. T. (2018). Social disorganisation and neighbourhood effects in Latin America. In J. E. Salahub, M. Gottsbacher, & J. de Boer (Eds.), *Social theories of urban violence in the Global South* (pp. 121–138). Oxford: Routledge. https://doi.org/10.4324/9781351254724-8

Armstrong, T. A., Katz, C. M. & Schnebly, S. M. (2015). The relationship between citizen perceptions of collective efficacy and neighborhood violent crime. *Crime & Delinquency, 61*(1), 121–142. https://doi.org/10.1177/0011128710386202

Bailey, N. & Livingstone, M. (2007). *Population turnover and area deprivation.* Joseph Rowntree Foundation. https://www.jrf.org.uk/sites/default/files/migrated/migrated/files/2004-population-census-deprivation.pdf

Bandura, A. (1997). *The exercise of control*. New York, NY: W. H. Freeman & Company.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 1–26. https://doi.org/10.1146/annurev.psych.52.1.1

Bellair, P. E. (2000). Informal surveillance and street crime: A complex relationship. *Criminology, 38*(1), 137–170. https://doi.org/10.1111/j.1745-9125.2000.tb00886.x

Bellair, P. E. & Browning, C. R. (2010). Contemporary disorganization research: An assessment and further test of the systemic model of neighborhood crime. *Journal of Research in Crime and Delinquency, 47*(4), 496–521. https://doi.org/10.1177/0022427810375578

Bernasco, W. & Block, R. (2009). Where offenders choose to attack: A discrete choice model of robberies in Chicago. *Criminology, 47*(1), 93–130. https://doi.org/10.1111/j.1745-9125.2009.00140.x

Black, D. (1971). The social organization of arrest. *Stanford Law Review, 23*(6), 1087–1111. https://doi.org/10.2307/1227728

Black, D. (1984). Social control as a dependent variable. In Donald Black (Ed.), *Toward a general theory of social control* (pp. 1–36). New York, NY: Elsevier. https://doi.org/10.1016/B978-0-12-102801-5.50007-8

Bottoms, A. (2018). The importance of high offender neighborhoods within environmental criminology. In J. N. Bruinsma, & S. D. Johnson (Eds.), *The Oxford handbook of environmental criminology* (pp. 119–150). New York, NY: Oxford University Press.

Braga, A. A., Weisburd, D. & Turchan, B. (2018). Focused deterrence strategies and crime control: An updated systematic review and meta-analysis of the empirical evidence. *Criminology & Public Policy, 17*(1), 205–250. https://doi.org/10.1111/1745-9133.12353

Browning, C. R. (2002). The span of collective efficacy: Extending social disorganization theory to partner violence. *Journal of Marriage and the Family, 64*(4), 833–850. https://doi.org/10.1111/j.1741-3737.2002.00833.x

Browning, C. R., Dietz, R. D. & Feinberg, S. L. (2004). The paradox of social organization: Networks, collective efficacy, and violent crime in urban neighborhoods. *Social Forces*, *83*(2), 503–534. https://doi.org/10.1353/sof.2005.0006

Brunton-Smith, I., Jackson, J. & Sutherland, A. (2014). Bridging structure and perception: On the neighbourhood ecology of beliefs and worries about violent crime. *British Journal of Criminology, 54*(4), 503–526. https://doi.org/10.1093/bjc/azu020

Brunton-Smith, I., Sturgis, P. & Leckie, G. (2018). How collective is collective efficacy? The importance of consensus in judgments about community cohesion and willingness to intervene. *Criminology, 56*(3), 608–637. https://doi.org/10.1111/1745-9125.12180

Bursik, R. J. (2017). Social sources of delinquency and the second coming of Shaw and McKay. In F. T. Cullen, P. Wilcox, R. J. Sampson, & B. D. Dooley (Eds.), *Challenging criminological theory: The legacy of Ruth Rosner Kornhauser* (pp. 105–116). Abingdon, Oxon: Routledge.

Bursik, R. J. & Grasmick, H. G. (1993). *Neighborhoods and crime: The dimensions of effective community control*. Lanham, Maryland: Lexington Books.

Carr, P. J. (2003). The new parochialism: The implications of the Beltway case for arguments concerning informal social control. *American Journal of Sociology, 108*(6), 1249–1291. https://doi.org/10.1086/377517

Carr, P. J. (2005). *Clean streets: Controlling crime, maintaining order, and building community activism*. New York, NY: New York University Press.

Carr, P. J. (2012). Citizens, community, and crime control: The problems and prospects for negotiated order. *Criminology & Criminal Justice, 12*(4), 397–412. https://doi.org/10.1177/1748895812447235

Carr, P. J., Napolitano, L. & Keating, J. (2007). We never call the cops and here is why: A qualitative examination of legal cynicism in three Philadelphia neighborhoods. *Criminology, 45*(2), 445–480. https://doi.org/10.1111/j.1745-9125.2007.00084.x

Carter, R. L. & Hill, K. Q. (1979). *The criminal's image of the city.* Elmsford, NY: Pergamon Press.

Cho, S. (2017). Self-control and risky lifestyles in context: Cross-level integration between opportunity and collective efficacy in the study of peer victimization among South Korean youth. *Journal of Child and Family Studies, 26*(1), 67–79. https://doi.org/10.1007/s10826-016-0554-y

Coleman J. S. (1990). *Foundations of social theory.* Cambridge, MA: Harvard University Press.

Corcoran, J., Zahnow, R., Wickes, R. & Hipp, J. (2018). Neighbourhood land use features, collective efficacy and local civic actions. *Urban Studies*, *55*(11), 2372–2390. https://doi.dox.org/10.1177/0042098017717212

Drakulich, K. M. & Crutchfield, R. D. (2013). The role of perceptions of the police in informal social control: Implications for the racial stratification of crime and control. *Social Problems, 60*(3), 383–407. https://doi.org/10.1525/sp.2013.60.3.383

Dreier, P., Mollenkopf, J. H. & Swanstrom, T. (2014). *Place matters: Metropolitics for the twenty-first century* (3rd ed.). Lawrence, KS: University Press of Kansas.

Einstein, K. L., Glick, D. M. & Palmer, M. (2020). Neighborhood defenders: Participatory politics and America's housing crisis. *Political Science Quarterly, 135*(2), 281–312. https://doi.org/10.1002/polq.13035

Fagan, J. & Davies, G. (2001). Street stops and broken windows: Terry, race and disorder in New York City. *SSRN Electronic Journal.* https://doi.org/10.2139/ssrn.257813

Garner, S. (2011). *White working class neighbourhoods: Common themes and policy suggestions.* Joseph Rowntree Foundation. https://publications.aston.ac.uk/id/eprint/17096/1/working_class_neighbourhoods_summary.pdf

Gau, J. M. (2014). Unpacking collective efficacy: The relationship between social cohesion and informal social control. *Criminal Justice Studies, 27*, 210–225. https://doi.org/10.1080/1478601X.2014.885903

Gerstner, D., Wickes, R. & Oberwittler, D. (2019). Collective efficacy in Australian and German neighbourhoods: Testing cross-cultural measurement equivalence and structural correlates in a multi-level SEM framework. *Social Indicators Research, 144*(3), 1151–1177. http://dx.doi.org/10.1007/s11205-019-02081-4

Gottfredson, M. R. & Gotffredson, D. M. (1987). *Decision making in criminal justice*. New York, NY: Springer.

Greenberg, S. W. & Rohe, W. M. (1986). Informal social control and crime prevention in modern urban neighborhoods. In R. B. Taylor (Ed.), *Urban neighborhoods: Research and policy* (pp. 79–118). Westport, CT: Praeger.

Hays, Z. R. (2011). *Police use of excessive force in disorganised neighbourhoods.* El Paso, TX: LFB Scholarly Publishing.

He, D. & Messner, S. F. (2020). Social disorganization theory in contemporary China: A review of the evidence and directions for future research. *Asian Journal of Criminology, 15*, 1–24. https://doi.org/10.1007/s11417-019-09291-2

Hipp, J. R. (2007). Block, tract, and levels of aggregation: Neighborhood structure and crime and disorder as a case in point. *American Sociological Review, 72*(5), 659–680. https://doi.org/10.1177/000312240707200501

Hipp, J. R. (2016). Collective efficacy: How is it conceptualized, how is it measured, and does it really matter for understanding perceived neighborhood crime and disorder? *Journal of Criminal Justice, 46*, 32–44. https://doi.org/10.1016/j.jcrimjus.2016.02.016

Hipp, J. R. & Wickes, R. (2017). Violence in urban neighborhoods: A longitudinal study of collective efficacy and violent crime. *Journal of Quantitative Criminology, 33*(4), 783–808. https://doi.org/10.1007/s10940-016-9311-z

Hipp, J. R. & Wickes, R. (2018). Problems, perceptions and actions: An interdependent process for generating informal social control. *Social Science Research*, *73*, 107–125. https://doi.org/10.1016/j.ssresearch.2018.03.015

Jackson, J., Bradford, B., Stanko, B. & Hohl, K. (2012). *Just authority?: Trust in the police in England and Wales* (1st ed.). Abington, Oxon: Willan. https://doi.org/10.4324/9780203105610

Janowitz, M. (1975). Sociological theory and social control. *American Journal of Sociology, 81*, 82–108. https://www.jstor.org/stable/2777055

Jiang, S., Land, K. C. & Wang, J. (2013). Social ties, collective efficacy and perceived neighborhood property crime in Guangzhou, China. *Asian Journal of Criminology*, *8*, 207–223. https://doi.org/10.1007/s11417-013-9167-1

Kirk, D. S. & Matsuda, M. (2011). Legal cynicism, collective efficacy, and the ecology of arrest. *Criminology*, *49*(2), 443–472. https://doi.org/10.1111/j.1745-9125.2011.00226.x

Kirk, D. S. & Papachristos, A. V. (2011). Cultural mechanisms and the persistence of neighborhood violence. *American Journal of Sociology, 116*(4), 1190–1233. https://doi.org/10.1086/655754

Kochel, T. R. (2012). Can police legitimacy promote collective efficacy? *Justice quarterly, 29*(3), 384–419. https://doi.org/10.1080/07418825.2011.561805

Kochel, T. R. & Weisburd, D. (2019). The impact of hot spots policing on collective efficacy: Findings from a randomized field trial. *Justice Quarterly, 36*(5), 900–928. https://doi.org/10.1080/07418825.2018.1465579

Kornhauser, R. (1978). *Social sources of delinquency.* Chicago IL: University of Chicago Press.

Lanfear, C. C. (2022). Collective efficacy and the built environment. *Criminology*, *60*(2), 370–396. https://doi.org/10.1111/1745-9125.12304

Lanfear, C. C., Matsueda, R. L. & Beach, L. R. (2020). Broken windows, informal social control, and crime: Assessing causality in empirical studies. *Annual Review of Criminology, 3*, 97–120. https://doi.org/10.1146/annurev-criminol-011419-041541

Lieberson, S. & Horwich, J. (2008). Implication analysis: A pragmatic proposal for linking theory and data in the social sciences. *Sociological Methodology*, *38*(1), 1–50. https://doi.org/10.1111/j.1467-9531.2008.00199.x

Liska, A. E. & Warner, B. D. (1991). Functions of crime: A paradoxical process. *American Journal of Sociology, 96*(6), 1441–1463. http://www.jstor.org/stable/2781906

Logan, J. R. & Molotch, H. L. (1987). *Urban fortunes: The political economy of place.* Berkeley, CA: University of California Press.

Lymperopoulou, K., Bannister, J. & Krzemieniewska-Nandwani, K. (2022). Inequality in exposure to crime, social disorganization and collective efficacy: Evidence from Greater Manchester, United Kingdom. *The British Journal of Criminology, 62*(4), 1019–1035. https://doi.org/10.1093/bjc/azab106

Maimon, D. & Browning, C. R. (2010). Unstructured socializing, collective efficacy and violent behaviour among urban youth. *Criminology, 48*(2), 443–474. https://doi.org/10.1111/j.1745-9125.2010.00192.x

Markowitz, F. E., Bellair, P. E., Liska, A. E. & Liu, J. (2001). Extending social disorganization theory: Modeling the relationships between cohesion, disorder, and fear. *Criminology, 39*(2), 293–319. https://doi.org/10.1111/j.1745-9125.2001.tb00924.x

Matsueda, R. L. (2013). Rational choice research in criminology: A multi-level framework. In R. Wittek, T. A. B. Snijders, & V. Nee (Eds.), *The handbook of rational choice social research* (pp. 283–321). Redwood City, CA: Stanford University Press.

Matsueda, R. L. & Drakulich, K. M. (2016). Measuring collective efficacy: A multilevel measurement model for nested data. *Sociological Methods & Research, 45*(2), 191–230. https://doi.org/10.1177/0049124115578030

Maxwell, C. D., Garner, J. H. & Skogan, W. G. (2018). Collective efficacy and violence in Chicago neighbourhoods: A reproduction. *Journal of Contemporary Criminal Justice*, *34*(3), 245–265. https://doi.org/10.1177/1043986218769988

Mazerolle, L., Wickes, R. & McBroom, J. (2010). Community variations in violence: The role of social ties and collective efficacy in comparative context. *Journal of Research in Crime and Delinquency*, *47*(1), 3–30. https://doi.org/10.1177/0022427809348898

Morenoff, J. D., Sampson, R. J. & Raudenbush, S. W. (2001). Neighborhood inequality, collective efficacy, and the spatial dynamics of urban violence. *Criminology, 39,* 517–560. https://doi.org/10.1111/j.1745-9125.2001.tb00932.x

Nagin, D. S., Herman, S. & Barnum, T. C. (2023). Collective guardianship, reactive and proactive. *Crime and Justice, 52*(1), 487–523. https://doi.org/10.1086/726140

Nix, J., Wolfe, S. E., Rojek, J. & Kaminski, R. J. (2015). Trust in the police: The influence of procedural justice and perceived collective efficacy. *Crime & Delinquency, 61*(4), 610–640. https://doi.org/10.1177/0011128714530548

Oberwittler, D. & Wikström, PO. H. (2009). Why small is better: Advancing the study of the role of behavioral contexts in crime causation. In D. Weisburd, W. Bernasco, & G. J. Bruinsma (Eds.), *Putting crime in its place* (pp. 35–39). New York, NY: Springer. https://doi.org/10.1007/978-0-387-09688-9_2

Openshaw, S. (1984). Ecological fallacies and the analysis of areal census data. *Environment and Planning A: Economy and Space, 16*(1), 17–31. https://doi.org/10.1068/a160017

Oteng-Ababio, M., Owusu, A. Y., Owusu, G. & Wrigley-Asante, C. (2017). Geographies of crime and collective efficacy in urban Ghana. *Territory, Politics, and Governance, 5*(4), 459–477. https://doi.org/10.1080/21622671.2016.1159602

Pei, F., Li, Z. J., Maguire-Jack, K., Li, X. M. & Kleinburg, J. (2022). Changes of perceived neighbourhood environment: A longitudinal study of collective efficacy among vulnerable families. *Health & Social Care in the Community, 30*(6), E6228–E6239. http://dx.doi.org/10.1111/hsc.14060

Peterson, R. D. & Krivo, L. J. (2010). *Divergent social worlds: Neighborhood crime and the racial-spatial divide*. New York, NY: Russell Sage Foundation. http://www.jstor.org/stable/10.7758/9781610446778

Pratt, T. C. & Cullen, F. T. (2005). Assessing macro-level predictors and theories of crime: A meta-analysis. *Crime and Justice, 32*, 373–450. http://www.jstor.org/stable/3488363

Prowell, A. N. (2022). Neighborhood collective efficacy as a culturally responsive resilience process: A longitudinal study of African American youth from fragile families. *Families in Society: The Journal of Contemporary Social Services, 103*(4), 475–488. https://doi.org/10.1177/10443894211048455

Raudenbush, S. W. & Sadoff, S. (2008). Statistical inference when classroom quality is measured with error. *Journal of Research on Educational Effectiveness, 1*(2), 138–154. https://doi.org/10.1080/19345740801982104

Raudenbush, S. W. & Sampson, R. (1999a). Assessing direct and indirect effects in multilevel designs with latent variables. *Sociological Methods & Research, 28*(2), 123–153. https://doi.org/10.1177/0049124199028002001

Raudenbush, S. W. & Sampson, R. J. (1999b). Ecometrics: Toward a science of assessing ecological settings, with application to the systematic social observation of neighbourhoods. *Sociological Methodology, 29*(1), 1–41. https://doi.org/10.1111/0081-1750.00059

Rhineberger-Dunn, G. M. & Carlson, S. M. (2009). Confirmatory factor analyses of collective efficacy and police satisfaction. *Journal of Crime and Justice, 32*(1), 125–154. https://doi.org/10.1080/0735648X.2009.9721264

Sampson, R. J. (2008). Collective efficacy theory: Lessons learned and directions for future inquiry. In F. T. Cullen, J. P. Wright, & K. R. Blevins (Eds.), *Taking stock: The status of criminological theory* (pp. 149–167). Piscataway, NJ: Transaction Publishers.

Sampson, R. J. (2012). *Great American city: Chicago and the enduring neighborhood effect*. Chicago, IL: University of Chicago Press.

Sampson, R. J. (2013). The place of context: A theory and strategy for criminology's hard problems. *Criminology, 51*(1), 1–31. https://doi.org/10.1111/1745-9125.12002

Sampson, R. J. (in press). *Great American city: Chicago and the enduring neighborhood effect* (2nd ed.). Chicago, IL: University of Chicago Press,.

Sampson, R. J., Morenoff, J. D. & Earls, F. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review, 64*(5), 633–660. https://doi.org/10.2307/2657367

Sampson, R. J., Morenoff, J. D. & Raudenbush, S. (2005). Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health, 95*(2), 224–232. https://doi.org/10.2105/AJPH.2004.037705

Sampson, R. J. & Raudenbush, S. W. (1999). Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology, 105*(3), 603–651. https://doi.org/10.1086/210356

Sampson, R. J., Raudenbush, S. W. & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, *277*(5328), 918–924. https://doi.org/10.1126/science.277.5328.918

Sampson, R. J. & Wikström, P. O. (2008). The social order of violence in Chicago and Stockholm neighborhoods: A comparative inquiry. In S. N. Kalyvas, I. Shapiro, & T. Masoud (Eds.), *Order, Conflict and Violence* (pp. 97–119). Cambridge, MA: Cambridge University Press.

Sampson, R. J. & Wilson, W. J. (1995). Toward a theory of race, crime, and urban inequality. In J. Hagan, & R. D. Peterson (Eds.), *Crime and inequality* (pp. 37–56). Redwood City, CA: Stanford University Press.

Schmidt, N. M., Tchetgen Tchetgen, E. J., Ehntholt, A., Almeida, J., Nguyen, Q. C., Molnar, B. E., Azrael, D. & Osypuk, T. L. (2013). Does neighborhood collective efficacy for families change over time? *Journal of Community Psychology, 42*(1), 61–79. https://doi.org/10.1002/jcop.21594

Shaw, C. R. & McKay, H. D. (1969). *Juvenile delinquency and urban areas: A study of rates of delinquents in relation to differential characteristics of local communities in American cities* (2nd ed.). Chicago IL: University of Chicago Press.

Silver, E. & Miller, L. L. (2004). Sources of informal social control in Chicago neighborhoods. *Criminology*, *42*(3), 551–584. https://doi.org/10.1111/j.1745-9125.2004.tb00529.x

Simons, R. L., Simons, L. G., Burt, C. H., Brody, G. H. & Cutrona, C. (2005). Collective efficacy, authoritative parenting and delinquency: A longitudinal test of a model integrating community- and family-level processes. *Criminology*, *43*(4), 989–1029. https://doi.org/10.1111/j.1745-9125.2005.00031.x

Sutherland, A., Brunton-Smith, I. & Jackson, J. (2013). Collective efficacy, deprivation and violence in London. *The British Journal of Criminology, 53*(6), 1050–1074. https://doi.org/10.1093/bjc/azt050

Taylor, R. B. (2015). *Community criminology: Fundamentals of spatial and temporal scaling, ecological indicators, and selectivity bias* (Vol. 12). New York, NY: NYU Press.

Twigg, L., Taylor, J. & Mohan, J. (2010). Diversity or disadvantage? Putnam, Goodhart, ethnic heterogeneity, and collective efficacy. *Environment and Planning A, 42*(6), 1421–1438.

Tyler, T. R., Jackson, J. & Mentovich, A. (2015). The consequences of being an object of suspicion: Potential pitfalls of proactive police contact. *Journal of Empirical Legal Studies, 12*(4), 602–636. https://doi.org/10.1111/jels.12086

Uchida, C. D., Swatt, M. L., Solomon, S. E. & Varano, S. (2014). *Neighborhoods and crime: Collective efficacy and social cohesion in Miami-Dade county*. National Institute of Justice Report. https://www.ojp.gov/pdffiles1/nij/grants/245406.pdf

van der Meer, T. & Tolsma, J. (2014). Ethnic diversity and its effects on social cohesion. *Annual Review of Sociology, 40*, 459–478. https://doi.org/10.1146/annurev-soc-071913-043309

Van Ham, M., Tammaru, T., Ubarevičienė, R. & Janssen, H. (2021). *Urban socio-economic segregation and income inequality: A global perspective*. Berlin, Germany: Springer Nature.

Warner, B. D. (2007). Directly intervene or call the authorities? A study of forms of neighborhood social control within a social disorganization framework. *Criminology, 45*(1), 99–129. https://doi.org/10.2307/3097221

Weisburd, D., White, C. & Wooditch, A. (2020). Does collective efficacy matter at the micro geographic level?: Findings from a study of street segments. *British Journal of Criminology, 60*(4), 873–891. https://doi.org/10.1093/bjc/azaa007

Wickes, R., Hipp, J. R., Sargeant, E. & Homel, R. (2013). Collective efficacy as a task specific process: Examining the relationship between social ties, neighborhood cohesion and the capacity to respond to violence, delinquency and civic problems. *American Journal of Community Psychology, 52*(1–2), 115–127. https://doi.org/10.1007/s10464-013-9582-6

Wickes, R., Hipp, J., Sargeant, E. & Mazerolle, L. (2017). Neighborhood social ties and shared expectations for Informal social control: Do they influence informal social control actions? *Journal of Quantitative Criminology, 33*(1), 101–129. https://doi.org/10.1007/s10940-016-9285-x

Wikström, P.-O. H., Oberwittler, D., Treiber, K. & Hardie, B. (2012). *Breaking rules: The social and situational dynamics of young people's urban crime*. Oxford, UK: Oxford University Press.

Wu, G. & Liu, J. (2023). Extending procedural justice theory to the Chinese context: The role of collective efficacy. *The British Journal of Criminology, 63*(1), 40–58. https://doi.org/10.1093/bjc/azab115

Yesberg, J. A. & Bradford, B. (2021). Policing and collective efficacy: A rapid evidence assessment. *International Journal of Police Science & Management, 23*(4), 417–430. https://doi.org/10.1177/14613557211026938

Yesberg, J. A., Costi, F., Chan, A. & Bradford, B. (2023). A systematic review and meta-analysis of the relationship between policing and collective efficacy. *Journal of Experimental Criminology, 20*(4), 1147–1173. https://doi.org/10.1007/s11292-023-09580-y

Zahnow, R., Corcoran, J., Kimpton, A. & Wickes, R. (2022). Neighbourhood places, collective efficacy and crime: A longitudinal perspective. *Urban Studies, 59*(4), 789–809. http://dx.doi.org/10.1177/0042098021100882

Zhang, L., Messner, S. F. & Liu, J. (2007). A multilevel analysis of the risk of household burglary in the city of Tianjin, China. *The British Journal of Criminology, 46*(6), 918–937. https://psycnet.apa.org/doi/10.1093/bjc/azm026