



Reimagining the familiar stranger as a source of security: generating guardianship through everyday mobility

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Abstract

The familiar stranger is a social phenomenon that emerges from the serial reproduction of daily routines, structured around urban places and practices, that results in repeated encounters with the same individuals over time. Scholarship suggests that increased familiarity among individuals might incur crime control benefits at places by reducing individual anonymity and enhancing the moral obligation to obey behavioural norms. Familiarity with place-based norms and regularities can also enhance guardianship capacity and willingness to intervene when problems arise. In this paper, we detail a framework that integrates geographical, sociological, and psychological understandings of urban daily life to conceptualize the familiar stranger as a uniquely urban phenomenon emerging from multiple social processes synchronising in time-space. Our framework highlights the capacity for variation in relation to intensity contingent on daily regularities, place attributes, structures and social norms and provides for future measurement, modelling, and monitoring of familiar strangers as a protective factor against crime that can be ascribed to individuals, places and/or social systems. We include an operationalisation of our framework for a single use case, namely familiar stranger encounters in a public transit network.

Keywords Crime · Guardianship · Time-space · Familiar stranger · Security

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Introduction

The question of how strangers perform everyday life in relative harmony as cities increase in scale, density and complexity has intrigued scholars for over a century. Some perspectives of the city demonstrate trepidation and unease with the momentary and multiplitious encounters that characterise public urban spaces (Wirth, 1938; Simmel 1950). Other interpretations of urban life suggest that encounters in contemporary urban settings, while less intimate and more subtle than those in smaller communities, are far from socially benign (Goffman 1964). Scholars aligning with the first perspective express concern that social density in urban settings necessitates “ fleeting” (Lofland 1989: p. 466) and “ sanitized” (Zukin 1995) encounters in lieu of interactions between acquaintances, neighbours and friends that serve to generate the social ties and shared values necessary for informal social control and guardianship (Granovetter 1973; Simmel 1950: p. 410; Groff 2015).

Yet, others highlight the unique relations that emerge in urban settings over time as individuals are bought together, day after day, by the spatio-temporal rhythms that characterize urban settings and synchronize individuals’ daily lives (Giddens 1985; Hägerstrand 1970; Parkes and Thrift 1975; Goffman 1963). Early urban scholars noted that individuals in the city adopt subtle forms of interaction, such as head nods, visual contact and smiles, to manage the momentary and voluminous nature of daily encounters and avoid sensory overload (Simmel 1903 [1997]; Goffman 1959; Milgram 1972). These subtle forms of interaction contribute to the development and maintenance of social structures (Giddens 1984, 1979), institutional norms (Zucker 1977; Jacobs 1961), civility and safety (Jacobs 1961) in urban settings. They also support the development of a relation unique to the urban settings—the *familiar stranger*.

The familiar stranger is a social phenomenon that emerges from the serial reproduction of daily routines, orchestrated around urban structures (Giddens 1984), that brings about repeated co-presences with the same individual at places over time (Milgram 1974). These repeated, subtle exchanges engender recognition and a sense of shared experience. Familiar stranger relations are unique from other social ties because their formation relies on the prevailing social, cultural, physical and biological constraints that evoke the synchronisation of individuals’ routine movements—their *time-space paths* (Hägerstrand 1970; Giddens 1972, 1976, 1979; Parkes and Thrift 1975). Further familiar stranger ties remain invisible (Felder 2021) until non-normative conditions require their activation.

The concept of the familiar stranger was first introduced by Georg Simmel to describe urban dwellers who were ‘fixed’ to the same spatial boundaries but retained social distance. He implied that the constraints of daily mobility, fixed to places, results in repeated encounters with the same individuals over time resulting in multiple, fluid encounters with *familiar strangers* who were spatially proximate and recognizable but at the same time socially distant. According to Simmel (1903) these encounters were best managed through passive, visual exchanges rather than verbal communication. Simmel suggested that maintained visual



exchanges could inhibit sensory overload and most effectively facilitate civility in the face of social difference and “co-habitation without rancour” (Simmel 1903 [1997]; Bailey 1996).

The second appearance of the familiar stranger concept emerged in the 1960s following an experiment by psychologist, Stanley Milgram who asked regular commuters on a train station to identify other regular passengers from photographs. Milgram suggests that familiar strangers emerge through repeated encounters that lead to visual recognition (Milgram 1970). Describing the familiar stranger as the outcome of a ‘frozen’ relational process Milgram explains that repeated encounters over time engender visual recognition, but institutionalised social, situational norms reify visual acknowledgement in lieu of verbal interaction. Milgram suggests that social density in public places coupled with the routine nature of encounters with familiar strangers makes verbal interaction overwhelming and awkward over time. Thus, verbal encounters between familiar strangers are reserved for non-routine events or when the need arises such as in a crime event or other emergency situation (Tavris 1974).

While rules and social practices that govern public space interaction (Giddens 1979; Bourdieu 1977) reify social norms of civil inattention in routine times (Goffman 1963, 1971), Milgram, found that nonverbal, “invisible” ties linking familiar strangers can be activated by an interruption to the routine order to produce benefits not unlike those associated with acquaintanceship ties and social bonds (Granovetter 1973). For example, one participant described a situation where she went to the aid of a fellow commuter who collapsed, taking care to ensure her belongings were carefully collected and she was accompanied in the ambulance. The participant explained that whilst she had never spoken to the woman, she felt a connection because they had seen each other on the station every day for years (Milgram 1972). This suggests that the familiar stranger is not socially benign but rather invisible (Felder 2021) with the potential to evolve along the scale of intimacy when required. Indeed familiar strangers represent *potential guardians* with greater capacity and willingness to intervene in a crime or safety event than other present individuals who have no prior connections to people or place (Milgram 1972; Cohen and Felson 1979). Further, a sense of shared identity with fellow familiar strangers facilitates a psychological preference to conform to group norms (Turner et al. 1987) and social rules (Giddens 1979) leading to territoriality (Taylor et al. 1984; Taylor and Covington 1988), greater self-monitoring and compliance with social order.

To date, scholars have enumerated the familiar stranger (Sun et al. 2013; Zhou et al. 2020; Liang et al. 2016) and demonstrated how the presence and volume of familiar strangers may influence crime and safety (Zahnow et al. 2020). While these studies note the importance of scheduled places such as transit stations and institutionalised routines such as school and work times for orchestrating the confluence of people at places, the centrality of *time-space* in the emergence of familiar strangers and the development of social practices that support place-based safety by facilitating guardianship remains understated (Schatzki 2016). Indeed, there has been little development in our understanding of the emergence, maintenance, and social utility of the phenomenon over the last 50 years. To investigate how patterns of encounter across urban settings lead to the initial emergence of familiar strangers



is a formidable, perhaps even an impossible task. Thus, investigations seeking to link everyday regularities with familiar stranger relations will be best placed to focus on the processes through which familiar strangers at places are maintained and can be modified for social benefits. To carry out such a research task requires a comprehensive, interdisciplinary framework that extends Milgram's notion of the familiar stranger to emphasize the process through which the unique relation develops through the serial reproduction of everyday life in urban settings. Here, we propose a model that synthesizes and elaborates ideas drawn from Hägerstrand's (1970) time-space geography, Giddens' (Giddens 1979, 1976, 1984) structuration theory, and Turner and colleagues' (Turner et al. 1987) self-categorization theory.

In the following sections we detail the key concepts that contribute to our conceptual framework. First we introduce foundational concepts from time geography to explain the temporal-spatial rhythms of urban settings and the synchronization of individual time-space paths that bring about repeated encounters between the same individuals (Hägerstrand 1970; Parkes and Thrift 1979). Second, we outline socio-logical understandings of urban life that highlight how structures (Giddens 1979), social norms and place practices (Goffman 1963; Simmel 1950), develop over time and govern behaviour in urban encounters. Third, we turn our attention to the individual, delineating psychological concepts of self-categorization and identity that help to explain individuals' motivation for social norm compliance and place guardianship, which when considered in aggregate underpins the reproduction of *civility and safety* in urban settings (Turner et al. 1987). In the final two sections, we outline a conceptual framework that integrates theoretical components introduced in previous sections and their intersection with perspectives from environmental criminology to articulate the familiar stranger as a unique urban phenomenon with potential crime prevention and security benefits. We conclude with an empirical case study demonstrating the association between familiar strangers and crime at bus stops and outline the implications of familiar strangers for the practice of safety and security in contemporary cities.

Human geography: Hagerstrand's time-space paths

While it seems a banal statement that everyday life occurs in time and in space; the role of time-space as a central feature of the everyday cannot be overstated (Schatzki 2010). For geographers, space has always maintained primacy in research, yet time is, arguably the central constitutive feature of the plenum of urban activity. The timing of everyday activities; arrivals, departures and duration, shapes urban *rhythms* as people move between places according to the multiple schedules of urban settings. While time exists across a range of dimensions (such as timing, tempo, temporality, duration), urban *rhythms* reflect the experience of time and space in combination (Lefebvre 1991). Rhythms are the observable social patterns of repetition around coordinated, aggregated activity reproduced at places over time (Blue 2017) that shape opportunities for repeated encounters between individuals.

Time geography is concerned with understanding the way in which individuals navigate through space as a product of everyday routine activities sequenced across



time. (Hägerstrand 1970). Several concepts from time geography are key for understanding how daily urban life is produced and re-produced providing opportunities for familiar stranger relations to emerge at particular places. Here we note three:

1. *Fixed versus flexible activities* Fixed activities are those that are spatially and temporally bound and cannot be readily rescheduled (i.e., those that are habitual in nature). Flexible activities may be performed at various locations or times (i.e., they are spontaneous in nature) (Parkes and Thrift 1975; Shen et al. 2015). Regularly scheduled activities provide anchoring points that enable the repeat synchronisation of time-space paths thus the emergence and maintenance of familiar strangers. These events may be referred to as *oscillatory pace-makers* and are reflected in artefacts such as bus or train timetables, school drop off times and shop opening hours, that structure everyday occurrences for many individuals forcing individual temporal schedules into alignment (Parkes and Thrift 1979).
2. *Time-space paths* Hägerstrand (1970) considers not only individual activities but rather sequences of daily activities and time-space paths. He notes that fixed activities must be considered within the daily time-space budget—i.e., the finite 24 h period that comprises any given day must be allocated across a discrete set of tasks and activities. Three types of constraints limit individuals' capacity to vary their time-space paths: capability, coupling and authority constraints. *Capability constraints* relate to biological necessities such as eating and sleeping along with an individual's abilities, knowledge, and available tools to perform activities. *Authority constraints* relate to the structural organization of society including rules and regulations that determine individuals' access to certain places at a given time. *Coupling constraints* refer to the necessity to 'couple' two individuals at particular time-spaces for an activity to occur. For example, a patient and doctor must both be present at the surgery at the same time for a medical appointment to occur. Because of constraints and the ongoing allocation of the scarce resource of time, individuals' mobility is spatially contained to set of locations that they visit on a regular basis (Hägerstrand 1970).
3. Time-space paths must be viewed as *collectivities not individually*. Hägerstrand (1970) emphasized the need to conceptualize urban daily life as emerging through continual convergence (and divergence) of individual time-space paths resulting in collectivities of paths at specific time-spaces. These are referred to as *bundling*. *Bundling* is contingent on the differential influence of constraints, physical place design and social density. Over time, repeated bundling may occur between the same individuals depending on the frequency, regularity and duration of activities at a given place (Hagerstrand 1973, 1985). Urban settings facilitate *familiar strangers* because they combine physical place design features (such as passageways, underpasses and transit platforms) that act to funnel population flows and encourage spatial proximity, social density and opportunities for time-space path synchronization (bundling) (Hägerstrand 1970; Parkes and Thrift 1975). Parkes and Thrift (1975) introduced the term *pace-makers* to describe collectively shared, relatively stable sources of bundling. Pace-makers are institutions, structures and activities that orchestrate individual lives and synchronize time-space paths at oscillatory periodicities; some *fixed* and regular, others flexible and erratic



(Parkes and Thrift 1979). Pace-makers, in particular, oscillatory pace-makers, (Parkes and Thrift 1979: p. 362) are widespread across the urban environment and include entities such as public transit stops and routes whose timetables bring about temporally defined and serially reproduced activities (other examples include lunch hour at the diner; fitness classes; work rotas). Pace-makers each have their own intrinsic cadence—buses are scheduled at transit stations by the minute but the post is delivered daily that act to shape everyday activities and to serially reproduce bundling events with varying intensity, tempo and timing. Time geography lays out a framework that considers how the allocation of time to *fixed* activities—those occurring at set times and places (e.g. work, school)—constrains the capacity for spatial variation and induces oscillatory patterns in individual time-space paths (Hägerstrand 1970; Parkes and Thrift 1975, 1979). While some elements of daily life remain unplanned, spontaneous and erratic, it is the regularized activities that anchor and constrain locational choices, and paths taken between them in a way that enables repeated encounters with the same individuals over time (Hawley 1950). This repeated time-space convergence of two or more individuals is the foundational condition that must be met for the familiar stranger relation to emerge.

Sociology: structuration, norms, practice and habitus

While repeated encounters are generated by bundling events, time-space paths, and constraints, the person-to-person encounter is governed by social structures, social norms, and rules of social practice. Time is intrinsic in the development and societal synchronisation of norms and practices (Blue 2017). Giddens' (1979; 1984) structuration is one of few social theories that centralises time. This is achieved somewhat implicitly by emphasising a process perspective.

According to structuration theory Giddens (1979; 1976; 1984), invisible social structures moderate, coordinate and organize routine daily life and human action and act to make living within higher social densities possible. Social structures inform and are informed by a covert system of social norms and practices that regulate everyday activity (Giddens 1979, 1976, 1984). Social norms are neither explicitly codified nor formally regulated yet play a vital role in collective life and in the development of the familiar stranger relation (Garfinkel 1964).

Giddens' model of structuration is a process orientated perspective of social life that articulates *structure* as both a product of and a constraint on human action (Giddens 1976, 1979, 1984). Giddens' defines *structure* as the sum of “rules and resources, organized as properties of social systems” that exist virtually, as shared knowledge (Giddens 1984: p. 25). With regard to day to day *encounters*, Giddens asserts that social structures inform *norms* and *resources* (Giddens 1976) that become encoded in an individual's knowledge over time and serve to regulate how people behave, enact power and respond to others. Norms thus regulate recurrent activities and patterns of interaction characteristics of particular time-space settings and encode an *interaction order* (Goffman 1963).



Social norms and rules of interactions in urban settings enable familiar strangers to develop and for the relation to be maintained over time without evolving beyond visual exchange and a nodded knowing of the other. Goffman (1959; 1963; 1967; 1971) described this as *civility* while Simmel (1950) explained the phenomena as *urban rationality*; both centre on safety and security in the urban environment. Goffman explains that by privileging visual cues over verbal interactions individuals can achieve a sense of exchange within the urban public realm while avoiding over-stimulation, exposure or appearing threatening (Sennett 2011; Simmel 1950) Milgram 1970).

While purposefully superficial, Milgram (1970) is careful to emphasize the social relevance of familiar stranger relations noting that familiar strangers are linked not only through repeated observation but also through a sense of shared, symbolic identification with the routinized event; part of which requires acting according to the institutionalized norms and interactional rules (Milgram 1970). Hence, a shared place-based identity, reciprocated trust, and unspoken agreement to consistently obey the social norms is achieved through routinized, place-based encounters. This process can also facilitate a stronger moral obligation to maintain the status quo and guard against potential threats to the normative order.

Social psychology: individual preference for conformity and social norm compliance

As outlined above, social norms are shared, though implicit, rules or schemas that inform individuals' actions, behaviours and communication within a given context. In relation to everyday encounters, individuals are primed to conform to social norms to enhance self-identification as a member of the in-group (self-categorisation theory); and in doing so avoid potential negative sanctions associated with non-conformity (rational choice/cost-benefit perspective) (Baumeister et al. 2001).

When considered alongside Milgram's (1970) perspective, that familiar stranger encounters engender a sense of shared symbolic identification with a routinized time-space event, self-categorization theory helps to explain why individuals conform to the social norms of urban encounters that produce and sustain the familiar stranger status. Self-categorization theory predicts that individuals will follow salient norms, even those that appear arbitrary, to minimize differences between themselves and their selected social in-group, for example, fellow commuters (Turner et al. 1987; Smith and Terry 2003). Thus, self-categorization theory suggests, that to reinforce their identity as a group member, individuals will conform to the behaviour demonstrated by those around them even in the absence of overt sanctions for non-compliance (Pryor et al. 2019). Indeed, experimental evidence consistently demonstrates this to be true (Pryor et al. 2019; Neighbours et al. 2010; Smith and Terry 2003; Rimal 2008). Further, Taylor and Covington (1988) finds that self-identification with the majority group strengthens territoriality and enhances the likelihood of place protective behaviours.

In the case of the familiar strangers, repeated encounters over time accentuate and confirm self-categorization as part of an in-group who share a routinized time-space.



Hence compliance with the norms of the familiar stranger relation, results from a preference for conformity coupled with an expectation—based on previous encounters that others will similarly conform and approve conformity (Bicchieri et al. 2018: p. 4). An important caveat of the familiar stranger relation is that the norms and rules of encounter are tightly coupled with the routine time-space event. Thus, if familiar strangers encounter each other far away from the scene of their routine encounter they may experience a “surge of familiarity and friendship” and engage in intimate verbal interaction (Milgram 1972: p. 68). Similarly, temporary shifts in the situational contexts, such as an emergency event, may trigger a disruption to routine and anomie conditions that incur verbal interaction.

Motivation for norm compliance may diffuse beyond the norms of the familiar stranger encounter to influence social norm conformity and deter deviant behaviour more broadly. Further, the potential for familiar strangers to be activated into a relation of familiarity and friendship in non-routine situations may provide a diffuse and currently untapped social resource in for crime prevention and safety at micro places.

The familiar stranger reimagined

Drawing on the theories and concepts from human geography, sociology and psychology we propose an interdisciplinary framework that seeks to explain the familiar stranger (depicted graphically in Fig. 1).

Bounding the three disciplinary contributions (depicted in Fig. 1 as interconnected spheres encasing the familiar stranger) is the concept of time-space. Time-space is the central organising feature of social systems and is the lens through which the coordination of social processes depicted herein should be considered to generate the familiar stranger. Thus, conceptually the familiar stranger relation emerges through the temporal-spatial coordination of interconnected phenomena:

- 1- Serially reproduced and constrained time-space paths, fixed to pace-makers that facilitate synchronization and bundling (Hägerstrand 1970; Parkes and Thrift 1979).
- 2- Social structures, norms and practices that shape interactions such as privileging of visual over verbal exchanges (Simmel 1903 [1997]) and civil inattention (Goffman 1963, 1971).
- 3- Reproduction of social practices motivated through individual preference for in-group conformity (Turner et al. 1987).

Our conceptualization of the familiar stranger captures the complexity and precariousness of the urban conditions under which this unique relation emerges and is maintained. We emphasize the interconnected structure of the framework; as a set of dynamic, reinforcing social processes bounded within a time-space perspective. This understanding of familiar strangers highlights the multidimensionality of the concept and the capacity for variation in relation intensity contingent on encounter



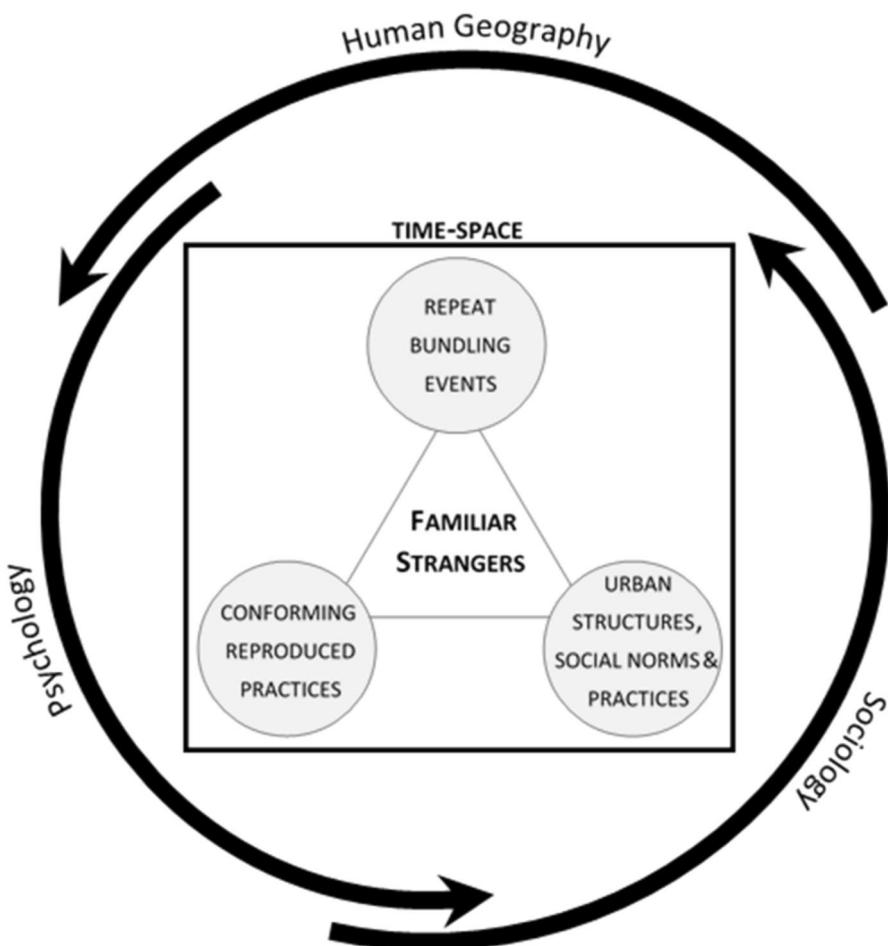


Fig. 1 The familiar stranger framework

periodicity, frequency, and duration; place specific practices and norms; and individual identification with the urban situation.

Importantly, the framework we offer intersects with perspectives from environmental criminology and contemporary understandings of the temporal-spatial patterns of crime and guardianship. Routine activity (Cohen and Felson 1979) and crime pattern theory (Brantingham and Brantingham 1993) explicate the crime event as a product of daily regularities constrained within regular activity spaces. From this perspective, knowledge of crime targets can develop along regular routes and at familiar nodes increasing the likelihood of offending. Yet, Taylor and colleagues (1988; 1980) suggests that territoriality can develop at regularly visited places when individuals self-identify with the in-group, which in turn can enhance conformity to the behavioural norms and willingness to engage in place protective behaviours. Thus, our conceptualization of the familiar stranger extends this



theoretical trajectory to consider the social context that is generated and maintained through routine activities at places and how repeat interactions with the same people may facilitate the development of in-group identification and territorial behaviours (guardianship) over time as suggested by Taylor (1984) (Taylor and Covington 1988; Taylor and Brooks 1980).

Our conceptual framework also carries over to empirical enquiry. By fully articulating the role of individuals, places, and social systems in generating and maintaining familiar strangers, our model provides scope to measure and model familiar strangers across all scales and through any set of methodological practices. Concepts outlined herein can be operationalised into consistent measures for comparing aggregate patterns of familiar strangers across urban contexts. Interviews and systematic observations at pace-makers can qualify the homogeneity of familiar stranger practices across places and over time.

The value of familiar strangers

Given that *familiar strangers* can be considered as an individual or, in aggregate, a place-based attribute, we suggest that the value of these relations may be conferred for individuals, places and the social system at large. From the perspective of the individual, familiar faces and the repeated enactment of routines, social norms and practices provides *ontological security*—a sense of psychological comfort derived from structure and established order (Giddens 1991). Studies demonstrate that familiarity supports the development of reciprocated trust (Browning et al. 2017), a sense of shared identity and enhances feelings safety and inclusion (Paulos and Goodman 2004; Jacobs 1961). Paulos and Goodman (2004) suggest that familiar stranger relations facilitate transitory solidarity which may encourage prosocial behaviour such as helping (Jacobs 1961; Gehl 2011; Sampson 2012; Blokland and Nast 2014) and tolerance of diversity (Simões Aelbrecht 2016).

When considered in aggregate as an attribute of places, a greater proportion of familiar strangers can accrue safety benefits (Zahnow et al. 2020). Zahnow et al (2020) found crime was lower at bus stops where a greater proportion of commuters were familiar strangers. There are several theoretical explanations for this relationship. When encountering familiar strangers individuals may be more likely to conform to social norms (Bicchieri et al. 2018) and avoid deviance due to a sense of shared identity, increased social responsibility and/or perceived loss of anonymity (Milgram and Hollander 1964; Li and Zhao 2019; Zimbardo 1969). Further, norm conforming interactions between familiar strangers model and consistently reaffirm appropriate place-based behaviour for other observers. Finally, a sense of familiarity and shared experience can increase guardianship capacity and willingness to assist a familiar stranger if a change in circumstances triggers the need for intervention (Milgram 1972). That is, familiar strangers at places may be associated with a dormant, social capacity that remains invisible or frozen until a non-routine event (such as a crime taking place or a medical emergency) instigates a more intimate interaction triggered by a ‘surge’ in familiarity and obligation to intervene (Milgram 1972).



Across social systems, the familiar stranger plays a vital role in the maintenance of everyday civility and social order (Sennett 2011). Everyday interactions with the same individuals can reinforce acceptable practices at places and support the formation of *habits* or conventions (Bourdieu 1990). This process may also facilitate the diffusion of incremental adaptations to social norms across the broader system in response to shifts in conditions (such as social distancing in the case of COVID-19). In a practical sense, the ubiquity of familiar strangers across social systems and the effortless nature of sustaining such relations, make this phenomenon an enticing consideration for initiatives aimed at enhancing social solidarity for safer, more secure, and liveable cities. As a product of the reproduction of time-space regularities and social practices, we can appreciate the conditions required to facilitate and maintain the familiar stranger over time as malleable to subtle environmental and behavioural nudges (Thaler and Sunstein 2014). Urban planning and design initiatives that aim to enhance opportunities for repeat encounters, such as strategically placed pathways, transit stations and street furniture, may facilitate familiar strangers and in turn accrue social benefits.

An empirical use case: familiar strangers in public transit networks

Transit stations are optimal settings for the development of familiar strangers. This is due to service scheduling that facilitates the ebb and flow of people presence at regular intervals alongside design features that funnel individuals into confined spaces such as platforms, carriages, and vehicles. To explore the concept of the *familiar stranger* (as depicted in Fig. 1) empirically, we draw on disaggregate smartcard transit data from Brisbane, Australia containing information on all public transit (bus) trips (comprising the location and time) made by individual travellers over a 9-month period.

Using these data, we computed the number of interactions between two smartcards at each transit station in the Brisbane bus network within any three-month period. We define an interaction as any two passengers attending the same bus stop within 15 min of each other. Familiar stranger interactions are where two passengers interact more than two times within a three-month period. To assess the potential value of familiar strangers at transit stations for crime prevention we examined the cross-correlation between total count of familiar stranger encounters across a 24 h period and daily total crime counts within a 100 m buffer of bus stops (Fig. 2). This operationalization of familiar stranger encounters is more sensitive than previous studies that have used a 30 min window of co-presence to define familiar strangers, however we note the need for sensitivity testing and further exploration of measures beyond total counts and proportions (Zhang et al. 2022).

Across the 9-month period,¹ there were a total of 47,464,326 recorded trips across the bus network of which 46% (or 21,768,764) involved a familiar stranger encounter. Figure 2 demonstrates at lag – 1 there is a significant negative correlation

¹ 1st September 2015 and 30.th May 2016.



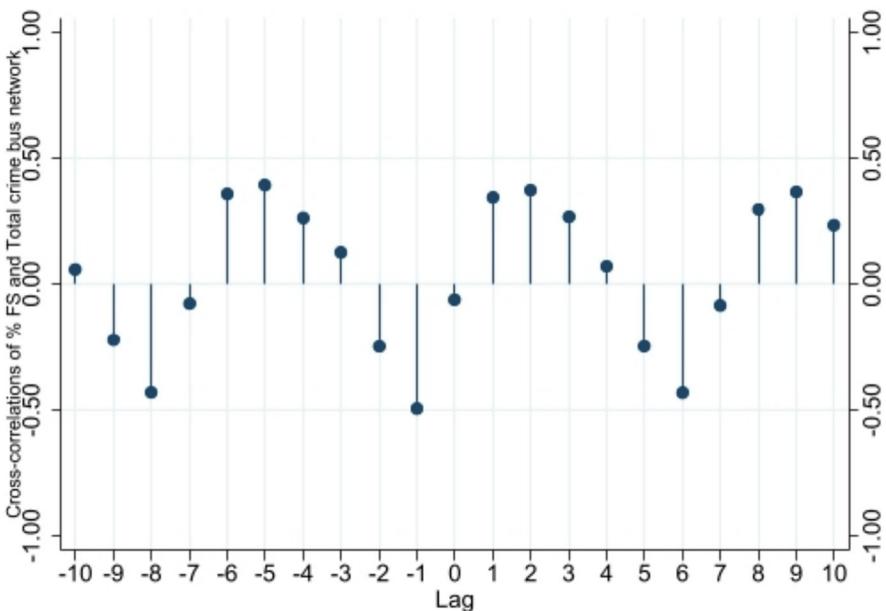


Fig. 2 Cross-correlogram: percent familiar stranger and crime within 100 m of bus stops

between daily familiar stranger encounters and total crime at transit stations the following day. To further explore this association, we tested for granger causality using negative binomial regression analysis. Specifically, we regressed total daily crime count at transit stations on lagged values of crime and lagged values on familiar strangers (Table 1). Taken together the results (in Table 1 and Fig. 2) suggest that the daily percentage of familiar strangers at transit stations has a direct influence on daily total crime at transit stations (Stock and Watson 2007). This provides some empirical evidence to suggest that the presence of daily familiar strangers at transit stations may be used to predict next day total crime within 100 metres of transit stations.

We note that this analysis accounts only for the correlation between the two time series (familiar strangers and crime) and does not account for other factors that may also covary. Further, to ensure adequate counts for statistical modelling we use the sum of all crime offences. We acknowledge that differences may exist in the temporal-spatial patterns of violent compared to property crime offences, however, an analysis of these differences is beyond the scope of this study.

Discussion

Every day in urban settings across the world individuals visually encounter others they recognize but have never verbally interacted with. Referred to as familiar strangers, these relations are ubiquitous, effortless to maintain and important to



Table 1 Results of negative binomial regression: total crime regressed on lagged crime and lagged familiar strangers

	Total crime 100 m bus stops		
	<i>IRR</i>	<i>SE</i>	<i>p</i>
Total crime (within 100 m of bus stops)			
L1	1.001	0.0004	*
L2	1.001	0.0004	
L3	1.001	0.0004	
L4	1.000	0.0004	
L5	1.001	0.0004	*
L6	1.000	0.0004	
L7	1.000	0.0004	
Familiar strangers (% total passengers)			
L1	1.007	0.002	***
L2	1.002	0.002	
L3	1.002	0.002	
L4	1.001	0.002	
L5	1.000	0.002	
L6	1.000	0.002	***
L7	1.001	0.002	
Constant			
LR chi ²	123.21***		
Log likelihood	- 1316.42		
Pseudo <i>R</i> ²	4.47%		
AIC, BIC	2664.839, 2722.235		

N=267 days, **p*<0.05, ***p*<0.01, ****p*<0.001

the urban social fabric. Empirical research demonstrates that familiar strangers are commonplace in urban settings (Zhou et al. 2020; Leng et al. 2018; Zhou et al. 2018; Sun et al. 2013; Liang et al. 2016) and have the capacity to provide crime and safety benefits (Zahnow and Corcoran 2019). However, to date this empirical work has lacked a comprehensive theoretical framework required to understand the social utility of familiar strangers and transform empirics into social policy practices. To address this omission, we presented a multidisciplinary conceptual framework that encapsulates the dynamic and multiple social processes that support the emergence, maintenance, and guardianship potential of familiar strangers in urban settings.

The conceptual framework we propose integrates three rich yet broadly siloed disciplines and associated literatures and in doing so offers important advancements to the way in which we understand and value the role of the familiar stranger in contemporary urban life. First it situates the familiar stranger encounter within a time-space framework. In doing so it introduces a new suite of concepts and a lens through which the dynamic temporal and spatial processes impacting the location and timing of familiar strangers can be explained. Second it sets out how the physical design, social and cultural characteristics of timed-spaces



facilitate differential capacity for the development and maintenance of familiar strangers dependent on spatial syntax and place-based practices. Third it articulates the importance of adopting a life course perspective of urban settings; one that can appreciate the role of repetition, reproduction and regularities in the development and maintenance of social life.

We acknowledge that the theoretical understanding of the antecedents of familiar strangers, we propose here is only a starting point. What is now required is to critically assess the applicability of this conceptual framework across a range of public spaces, cultural contexts and against various urban backcloths. We have yet to engage with issues of socio-structural power differentials that may influence encounters with difference across class, race, culture and gender (Wilson 2011; Valentine 2008). In this respect, incorporation of Simmel's original notion of the familiar stranger has some utility (Simmel 1903). Simmel (1903), not unlike Milgram situated the familiar stranger by noting the limits of human capacity in diverse urban settings to engage in close social relations with the many individuals encountered daily. Hence, Simmel used the term familiar strangers to describe individuals encountered in the urban setting who are personally unknown but whom we have categorical knowledge that informs encounter behaviour. The significance of Simmel's interpretation of the familiar stranger lies in the emotional ambivalence ascribed to encounters void of any personal knowledge. Social connections that are possible among familiar strangers allow for a form of "civility of indifference, a skill of co-habitation without rancour" (Bailey 1996).

From Simmel's perspective, daily encounters with difference are tolerated and accommodated rather than problematized, confronted or indeed embraced. Some scholars have problematised encounter with difference in urban settings noting that encounters and the production of civility does not equate to a change in prejudicial values or beliefs (Valentine and Waite 2012). However, this does not consider how repeated encounters with the same individual may influence categorical knowledge over time. Indeed, such serial reproduction of the encounter could serve to shift pre-reflexive, group perceptions and gradually over time reduce prejudices (Wilson 2013). The conceptual framework provided here is a foundation to advance research in these areas.

We demonstrated the capacity for the conceptual framework to be operationalized and measured using transit smart card data and specifically the potential security benefits of familiar strangers for public spaces. We acknowledge the limited nature of the empirics presented here and the need to extend this research to fully understand the extent to which familiar strangers emerge throughout the urban environment and to empirically link familiar strangers with security outcomes.

The framework we have outlined highlights the potential safety and security benefits of familiar strangers for public places in contemporary urban settings. Familiarity with people and place can enhance feelings of safety and reduce fear of crime (Paulos and Goodman 2004; Jacobs 1961). A clearer understanding of the spatial-temporal and physical requirements for maintaining familiar strangers offers potential benefits for encouraging vulnerable individuals such as older persons to access public spaces without fear of victimisation. Further, while public security is often viewed as synonymous with police, familiar strangers can provide *crime prevention*



through acting as capable and willing guardians. While guardianship potential has most often been explored in residential homes and neighbourhoods, here we suggest that willingness to enact guardianship can similarly be developed in the *public realm*, through shared identification and belonging to recurring place-time events.

Understanding familiar stranger dynamics and its implications also suggests that more could be done to purposefully design and curate the environment in ways that act to increase the propensity for familiar strangers to emerge thereby enhancing place security. Specifically, well established crime prevention through environmental design strategies can be extended to incorporate techniques that utilize environmental design to facilitate familiarity. For example, urban design policies such as mixed-use developments that combine residential, commercial, and recreational spaces and support a broad suite of activities and reasons for people to frequent the same area, will likely increase the chances of encountering familiar faces. Other urban design features include community gardens, and pedestrian friendly infrastructure (e.g., greenery, footpaths, benches, and water bubblers) that encourage funnelling in public places facilitate face to face encounters especially when coupled with regular community events such as markets that synchronize place users.

To extend this area of research data we suggest the following road map that is now needed to model the various mechanisms underlying any crime prevention benefit that might accrue from the presence of familiar strangers:

1. *Strengthen and integrate measurement and theoretical explanations of familiar stranger encounters* First, is the need to critically evaluate both how familiar strangers are measured alongside how these various measures matter for social outcomes including as a source of security through generating guardianship. Whilst some work has begun to emerge (Zhang et al. 2022) more remains to be done to evolve a set of meaningful measures that draw on and intersect with environmental criminology theories espousing the physical landuse features and contextual conditions that promote territoriality and guardianship capacity.
2. *Broaden the situational and cultural contexts of study* In the current study, we examine familiar stranger interactions in a public transit context but acknowledge there exists many other public settings where such interactions routinely take place. These include on the street, at the local store, a café, dog park or greenspace to name just a select few. These places are locations where daily rhythms are likely to intersect, providing the requisite pre-conditions for a familiar stranger interaction to take place. Further the design of these places is also important in their capacity to funnel pedestrian traffic through walkways and how features such as benches, shade and public art act engender lingering in particular locations with a given place. There is a need to operationalize the familiar stranger concept across a range of urban settings and cultural contexts to understand how the presence of familiar strangers and the crime prevention benefits that they offer, differ. To progress this avenue of work, emergent sources of disaggregate data such as mobile phone and Wi-Fi or Bluetooth data are needed to capture familiar stranger encounters beyond a public transit context.
3. *Embed critical geographic perspectives* While we are yet to engage with critical geographic perspectives, we acknowledge the importance of this limitation



and invite future research to consider how socio-structural power differentials that influence encounters with difference across class, race, culture and gender (Valentine 2008; Wilson 2011, 2016; Kwan 2000) may be incorporated into the conceptual framework proposed herein.²

4. *Translation into policy and practice* Future work should prioritize translation of findings about familiar strangers, and the social benefits that they accrue, into practical advice to shape urban design policy and community strategies such as scheduling events that encourage familiarity through regularity.

Conclusion

While the familiar stranger has captured the attention of scholars for more than a century, theoretical development and empirical exploration of the phenomena has been stymied by disciplinary silos. In the current paper, we have proposed a conceptual model that draws on Hägerstrand's time geography, Giddens' structuration theory, and Turner and colleagues' self-categorization theory to articulate and empirically demonstrate the potential benefits of the familiar stranger for crime prevention and security. Our hope is that this study now acts as a reference point and call to scholars to apply and extend the examination of the familiar stranger concept by intersecting it with existing theories of crime guardianship and routine mobility to better establish this social phenomenon as a source of security in everyday life.

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Declarations

Conflict of interest The authors have no conflicts of interest to report.

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² We suggest that Simmel's original conceptualization and notions of categorical strangers may be useful here.



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