Neighbourly problems in neighbourhood context: Understanding how neighbourhoods influence the prevalence of neighbourly problems and complaints

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Abstract
As people who live in closest proximity to us, neighbours remain central to our lives, even if they are relative strangers. They can often be the first responders in an emergency or approached for small favours, while even casual encounters with neighbours can buffer the effects of isolation in urban areas. But neighbours can also be a source of nuisance, conflict and distress as the sights, sounds and smells that emanate from their homes intrude into those of others living nearby. In the advent of socio-structural processes of urban policy and change—such as gentrification, social mix and urban consolidation—any taken-for-granted conventions that might once have regulated neighbourly interactions are being eroded. This renders neighbouring a more fraught form of social relationship, potentially leading to greater levels of neighbourly problems and complaints. In this paper, we apply a latent modelling approach to identify subgroups of neighbourhoods based on their profiles of neighbourly problems and to assess whether these subgroups are characterised by the degree of social change in the neighbourhood. Examining neighbourly relations as they go wrong gives us new insights into the kinds of relationships and interactions that take place in urban areas and show that neighbourhood—and neighbours—still matter, even when the quality of those relationships is poor.

Introduction
Within academic debate, the kinds of relationships that typically exist among those who live in close proximity to one another – next door, across the street or over the fence – have been viewed as taking a number of forms. For those concerned about the eroding effects of globalisation, mobility and the individualisation of social life, neighbour relations and other forms of local social ties are viewed as having weakened, reducing neighbours to indifferent strangers who care little for one another except as keepers of a minimalist moral order (Baumgartner, 1988; Etzioni, 1993; Sennett, 1998). Running parallel to these theoretical propositions are empirical studies showing the continued importance of positive relations with neighbours for the provision of local forms of support (Unger and Wandersman, 1985), higher levels of neighbourhood satisfaction (Aubrey et al., 1995; Prezza et al., 2001; Parkes et al., 2002); social integration (Garland, 2001; Henig, 2012); and the provision of informal social control and concomitant reduction in fear of crime (Sampson, 2004). In an attempt to reconcile these diverging perspectives, a third body of work has sought to examine ‘neighbouring styles’, arguing that neighbours attenuate to contemporary notions of privacy in their interactions with one another, but that they also maintain meaningful relations as neighbours through adherence to norms of what Crow and colleagues (2002) term ‘friendly distance’ (see also Baskin, 1989; Laurier et al., 2002).

The overarching conclusions drawn from such research are that neighbour relations are either benign or absent. Only in more limited instances is there consideration of the possibility that living in close proximity to others – even those with whom friendly greetings are exchanged – can generate a host of annoyances, disputes and occasional open hostility (Cockayne, 2012). Of those studies documenting problems between neighbours, all have been case studies of neighbouring in particular contexts such
as low-income neighbourhoods (van Eijk, 2012; Peel, 2000); new housing estates (Young and Wilmott, 1957; Richards, 1990); or affluent suburbs (Baumgartner, 1988), or they have been ethnomethodological accounts of the explication of good or bad neighbours with neighbour complaints indicating breaches of an unwritten social order (see Stokoe, 2002; 2003). The result is that opportunities to consider neighbour problems as influenced by more macro-social forces such as class or housing market dynamics, or to examine their prevalence with reference to ‘neighbourhood effects’ has been much more limited. What little research has been conducted suggests that 18% (Nieuwenhuis et al., 2013) to 50% (Dignan et al., 1996) of the population have experienced some form of nuisance from a neighbour and that some patterns can be discerned whereby problems are more likely to be encountered among those living in rented or high density accommodation (MORI, 2003), or in neighbourhoods with concentrated disadvantage or high levels of residential mobility (Cheshire and Fitzgerald, 2013).

While the specific issue of neighbour problems in neighbourhood context is relatively under-researched, there is more evidence to suggest that neighbourhood characteristics do have some predictive value in influencing related concepts such as the frequency of neighbourly interactions, levels of neighbour connectedness, and neighbourhood satisfaction (of which neighbours are an important component) (Gracia et al., 1995; Carpiano, 2006; Guest et al., 2006; Baum et al., 2010). Yet much of this work has adopted a cross-sectional view of neighbourhoods, focussing on their characteristics and dynamics at a single point in time (Kitchen and Williams, 2009). That neighbourhoods experience change, and that these processes are likely to influence residents’ perceptions of, and relations with, one another may seem rather obvious, but there are important considerations for research arising from these processes. These include knowing which mechanisms and trajectories of change are most influential in shaping neighbour relations, and in what ways; identifying what kind of outcomes are produced – often unintentionally – from targeted policy interventions such as area renewal and other place-focused initiatives; understanding more clearly the ongoing effects of housing market dynamics on the way neighbours in different tenures live and relate to one another, especially as social housing becomes more residualised; charting the differential effects of changes to the composition of neighbourhoods, either as diversity increases or as new residents displace old; and considering how residents respond to these processes as they adapt to, or seek to resist, changes to the established social order of neighbourhood life.

In this paper we explore some of these issues in the context of three processes of neighbourhood social change. The first is an increase in the diversity of neighbourhoods by housing tenure and ethnicity, which may come about through deliberate policies of social mix, or through the shifting dynamics of broader economic and social processes which alter the composition of suburbs over time. Second, and associated with this, is gentrification where the influx of new, more affluent, residents into older, low-income areas close to the city centre leads to the displacement of their original inhabitants. Here, the creation of a socially mixed population may be more of a temporary state before lower-income groups are ultimately priced out of the housing market and the population becomes more homogenous. Finally there is urban densification or ‘consolidation’ which occurs as residential densities increase and which has, in Australia at least, been a dominant planning policy for several decades. Collectively, these processes have been shown to influence the interactions that take place between neighbours, but usually only after the changes have occurred, and without a detailed explication of the kinds of problems that might arise in particular contexts of change. The combined evidence of neighbourhood change processes and the situated nature of neighbourly problems thus suggest a prior and straightforward research question: How is the degree of social change in a neighbourhood associated with residents’ experiences of neighbourly problems? Where previous research has sought to assess the effect of neighbourhood conditions on particular outcomes using static or cross-sectional estimates of the concentration of these conditions (Lupton and Power 2004), our aim in this paper is to assess whether there is a connection between the extent of social change in places and their corresponding profiles of neighbour problems. We adopt a latent modelling approach to first identify unique subgroups of urban neighbourhoods based on residents’ reports of neighbour problems, and subsequently to test whether neighbourhoods’ membership in these subgroups can be explained by the presence of a high degree of neighbourhood social change with respect to measures
of gentrification, densification and social mix (including ethnic heterogeneity and an increase in social housing). We rely on data from a survey of residents from a representative sample of neighbourhoods in Brisbane, Australia combined with corresponding Australian census data from 2001 and 2011 to address this question.

Social mix, gentrification and consolidation: how do they influence neighbour relations?

It is well recognised that the characteristics of particular neighbourhoods are central to understanding a variety of social processes within them, including neighbourhood satisfaction (Aubrey et al., 1995), neighbour interaction (Forrest and Kearns, 2001) and neighbour problems (Nieuwenhuis et al., 2013; Cheshire and Fitzgerald, 2013). But neighbourhoods are not static entities. As Lupton and Power (2004) note, both exogenous or ‘within-neighbourhood’ factors – such as local economic, housing or public policy initiatives – and broader economic, social and cultural shifts are responsible for reconfiguring the spatial distribution of affluence and disadvantage across the city and the internal dynamics of individual neighbourhoods (Johnston et al., 2007). Those areas closest to the attractions of inner city life may witness their socio-demographic profile and position in the urban hierarchy rise by the arrival of new, middle class gentrifiers (Butler and Robson, 2001) or have their landscapes dramatically transformed through the erection of medium and high rise residential developments (Buys and Miller, 2012). Others can suffer the effects of deindustrialization, the decline of manufacturing employment, the deterioration of housing stock and the concomitant fall in house prices, which may result in a growing concentration of low income and ethnically diverse households who lack the means to make any real choice in where they live (Riebel and Regelson, 2011; Randolph and Freestone, 2012). For neighbourhoods deemed especially problematic, they may also be targeted with regeneration schemes which attempt to ‘thin out’ the poverty, deprivation and social problems that exist there. In all cases, the consequences of these changes to the physical landscape of neighbourhoods and their composite population can create tension and conflict among residents as the established sense of social order and existing meanings about place are disrupted, particularly when they are perceived to be against residents’ interests or control (Ray et al., 1997).

The consequences of these processes for local social life have been extensively documented in the literature, as we outline below. But as our review also illustrates, there is little research that incorporates a temporal approach to understand the impact of change as it occurs, or which compares the effects of rapid or intense forms of change with a slower more evolutionary progression through the life cycle. In what follows, we provide a brief description of increasing diversity, gentrification and social mix as the key processes of neighbourhood change under examination in this paper. Next, we present an overview of current knowledge on neighbourhood dynamics under these conditions, while noting that, to date, few studies have sought to factor in the dimension of change as an explanatory device. Nevertheless, they provide a useful baseline for our later analysis as a way of understanding how the nature, direction and pace of neighbourhood change might compound any neighbour tensions that are already know to arise.

In turning first to the processes through which neighbourhoods become more diverse, research has documented three specific routes. The first is the historical experience of (predominantly) US cities where a large and growing black population has led to the creation of racially diverse neighbourhoods (Galster, 1990; Denton and Massey, 1991). Otherwise known as ‘white flight’ or ‘racial turnover’, the mixing effect was found to be temporary as white residents departed, leaving the neighbourhood to become predominantly black. More recent studies on this phenomenon, however, have argued that the growth of Asian and Hispanic populations in the US have created more multi-ethnic neighbourhoods which show signs of being more stable and ‘global’ in orientation than those comprising a white population and a single minority group (Riebel and Regelsen, 2011).

Second is a process known as ‘social mix’ which aims to increase social diversity, most commonly on the basis of residential tenure and income, but also ethnicity. With evidence suggesting that the concentration of low-income or unemployed people into a single area compounds their disadvantage
and increases their social and economic isolation (Buck, 2001), the solution has been thought to lie within urban regeneration schemes that integrate them with owner-occupiers or employed residents, thereby connecting them to social networks that improve their circumstances and reduce the prevalence of social problems (see Atkinson, 2008 and Baum et al., 2010 for Australia; Atkinson and Kintrea, 2000 for the UK; Ostendorf, 2001 for The Netherlands; and Walks and Maaranen, 2008 for Canada). As Atkinson (2008) notes, attempts to increase social mix often occur explicitly through diversification of the housing stock and the creation of mixed tenure neighbourhoods, primarily because tenure is relatively easy to manipulate through the housing system. He identifies a range of such policies, including revitalisation programmes designed to make low income areas more appealing to middle class residents and incentives to encourage low-income residents to move to better-off neighbourhoods. In his opinion, social mix policies do have some positive outcomes, including a reduction in crime and stigmatisation; increased community stability; and improvements in the physical characteristics of the houses and neighbourhood. Other studies, however, have found no such effects although they note that further longitudinal research is required before these can be measured more robustly (Ostendorf et al., 2001).

Finally there is extensive analysis of gentrification. Initially conceived as a process involving the colonisation of cosmopolitan inner urban areas by an artistic class with high levels of cultural capital, more recent accounts have charted a ‘second wave’ of gentrification based on the marketing of these areas to a professional class in possession of higher levels of economic capital (Bridge, 2006). At the same time, gentrification has also become more or less linked to the policy goals of social mix despite long-term and widespread concern among scholars that the colonisation of working class neighbourhoods by a global gentrifier class leads to the displacement of its working class occupants (Glass, 1964; Atkinson, 2000 Bridge, 2006; Butler, 2003). While early research focussed explicitly on ‘classic’ ‘colonisation and displacement’ models of gentrification, more recent work has recognised not only that there are different forms of gentrification, but also that their impacts on neighbourhood diversity are likely to vary according to local policies and contexts (Walks and Maaranen, 2008). This has prompted Butler (2007) to caution against tying gentrification to a particular (global, inner city) space and to call for more specific theories of gentrification that better explain its processes and effects in particular spatial contexts. In an attempt to capture this differentiation, van Creikingen and Decroly (2003) outline four different types of gentrification, viewing the classic model as the only true form. The other three – ‘marginal gentrification’ based on the settlement of young professionals in high density inner city accommodation; ‘upgrading’ of inner or middle ring housing by young newcomers; or ‘incumbent upgrading’ undertaken by an existing population – are more likely to be found in cities which are lower in the urban hierarchy. Further, the impacts of these processes in terms of population change are also likely to vary. Whereas classic gentrification involves the displacement of the incumbent population by another, marginal gentrification more commonly creates a state of population turnover even as the social or economic composition of the neighbourhood stays the same. By comparison, upgrading may increase the socio-economic status of the area, but only if population change takes place.

A second process which has dramatically altered both the physical form of neighbourhoods and their social make-up is ‘the densification of residential areas through the building of attached dwellings and their use for residential purposes’ (Bunker et al., 2005: 16). While densification is an international phenomenon, it has become a particularly salient topic of debate in Australia in recent decades given its dominant status within State urban policy and planning strategies under the title ‘urban consolidation’ or ‘urban containment’ (Loughlin, 1991). With Australian cities typically characterised by low density residential living, largely fostered by a cultural preference for the suburban detached house (Randolph, 2006; Buys and Miller, 2010), urban consolidation has been viewed as the most effective means of constraining outward city growth while simultaneously increasing both the diversity and affordability of housing stock (Yates, 2001). This typically occurs through the development of old industrial inner city or waterfront brownfield sites (Searle, 2004) or through in-fill or ‘spot densification’ in residential areas (2002: 146). Complexes of more than four storeys are defined as ‘high rise’ developments while those with fewer than four storeys, or that consist of semi-detached, row, terrace or villa-style dwellings are typically viewed as medium density (Bunker et al.,
While academic opponents of urban consolidation have been vigorous in their critique, arguing that existing infrastructure is unlikely to be able to bear the load of a larger population (Seale, 2004), local residents have also been hostile to the process, mobilising themselves to protest what they see as a threat to local amenity (Bunker et al., 2002; Mitchell and Wadley, 2004; McCrea and Walters, 2012; Cooke et al., 2013). This, as Buys and Miller (2012) point out, is particularly so in suburbs within the vicinity of the inner city where the perceived threat of urban consolidation to the heritage and character of the local area might also be understood as posing a risk to the generation of gentrifying symbolic capital.

Within this broad field of research on processes of neighbourhood change, consideration has been given to their effects on the dynamics of local social relations, including interactions with neighbours and potential sources of conflict. To begin with, many scholars have observed that rising heterogeneity incites either absent or negative neighbourly relations, leading to the creation of a divisive ‘us and them’ mentality between social groups based on length of residency (Cibriwsky, 1978; Southerton, 2002), tenure (Perin, 1977; Atkinson and Kintrea, 2000) and ethnicity (Wise, 2010). Such findings have particular salience for policies of social mix given their goal to foster better linkages between mixed tenure households as a way of reducing the marginalisation of low income or social housing tenants. In examining the outcome of these policies, both Atkinson and Kintrea (2000) and Ruming et al., (2004) report that physical proximity does not necessarily lead to increased interaction between neighbours of mixed tenures. In Atkinson and Kintrea’s study of three Scottish housing estates where owner occupation had been introduced, there was a sense among homeowners of not being accepted into the community on the basis of their tenure. Conversely, in Ruming et al’s (2004) account of a mixed tenure suburb in Australia where owner-occupation was dominant, it was the social housing tenants who reported feeling excluded. While Nieuwenhuis et al. (2013) hypothesise that low interaction between neighbours may reduce the likelihood of problems emerging, Beekman’s findings suggest that it is physical proximity between neighbours of different tenure that increases the potential of neighbourly conflict arising rather than frequent social contact.

Studies of gentryifying neighbourhoods note similar tendencies towards absent or fractured neighbourly relations, particularly among the middle class gentrifiers and the working class and mixed-race natives who are rendered invisible by their new neighbours (Butler, 2001: 2484 see also Watt, 2009 for similar observations in a suburban context). As such, Butler identifies gentrification as potentially exerting a negative influence on neighbourly relations to the extent that it may polarise the social structure of the area and mar efforts towards greater social cohesion. Yet he and Robson (2001) also observes a different pattern of neighbouring among gentrifiers themselves, especially those with higher stocks of cultural capital, describing them as ‘like-minded households which are interconnected by strong social and personal friendship networks in which stored cultural capital is realised as neighbourhood social capital’ (Butler and Robson, 2001: 2158). Shaw (2004) has also found high levels of social capital among gentrifying residents in her Australian study, generated from residents’ perceptions of shared lifestyles and aspirations.

Finally, research has also focussed on the effects on neighbour relations of residential density, although usually through collorary concepts such as residential satisfaction (Buys and Miller, 2011), perceptions of community (Wood, Frank and Giles-Corti, 2010), and liveability (Thomas et al., 2011; McCrea and Walters, 2012). While there is little material on the effects of increasing neighbourhood density on these phenomena, the general consensus seems to be that higher density dwellings possess a lower quantity and quality of neighbourly interactions, with relationships generally characterised by absent, benign, or even hostile exchanges. Indeed, McCarthy and Saegert (1978) refer to such interactions in high density dwellings as empirical manifestations of social withdrawal and social overload, often caused by small indoor and outdoor living spaces, no visual buffers or distance between neighbours, noise or smells emanating from neighbours homes, and a lack of privacy (Thomas al., 2011). Randolph (2006) is highly critical of high density living for these very reasons, and argues that such arrangements will preclude neighbourliness and incite discontent. Yet some research exists to counteract these disheartening conclusions. For example, while Skjaeveland and Garling (1997:194) initially noted that ‘dwelling density was negatively related to supportive acts of
neighbouring’ they also posited that if a critical mass of density dwellings could be obtained, it was probable that residents would find neighbours with whom they would want to have closer contact. Similarly, in an Australia study of residents in medium density dwellings, Baker (2013) reports that the majority of residents enjoyed harmonious relations with neighbours, which was consciously achieved by ‘striking a balance between privacy and contact’ (Baker, 2013: 11). Nevertheless, he also notes that distinctions did arise between neighbours, but these were less likely to be based on building density or neighbour proximity than on tenure, and to arise between renters (who were also assumed to be young singles) and owner occupiers (who were assumed to be older and retired or with established families).

The conclusions we can draw from this review is that social mix, gentrification and densification produce neighbour relations that are less active or harmonious than they may otherwise be, but that this is by no means inevitable. Indeed, as other studies have suggested, close ties of mutual support and collective interest can form in some cases, but usually among those who perceive themselves to have something in common, and often at the expense of social groups who are ‘othered’ in the process, be they private or social housing tenants, newcomers or working class natives. Yet many of these accounts are produced from studies of neighbourhoods that have already been gentrified and subjected to policies of social mix, or that examine neighbourly life in existing high density developments. In so doing, the combined effects of these conditions with the process of change in and of itself are often overlooked. In the remainder of this paper, we seek to remedy this by examining how neighbourly life in Brisbane Australia have changed in the decade since 2001 in terms of residential diversity, gentrification and increased density, and considering what this means for residents’ likelihood of encountering specific types of problems with their neighbours.

**Research methods**

In this paper we focus more explicitly than previous research has done on the association between the forms of neighbourhood change documented above and the type of neighbour problems experienced within neighbourhoods. Using the neighbourhood as our unit of analysis, our primary goals are, first to test whether we can discern unique subgroups of ‘neighbour problem’ types across a sample of neighbourhoods, and second to test whether neighbourhood membership in these subgroups can be explained by the presence of a high degree of neighbourhood social change with respect to measures of gentrification, densification and social mix (including ethnic heterogeneity and mixed housing tenure). We use a latent class modelling approach (Lazarsfeld and Henry, 1968) to carry out this analysis, and rely on data from the Australian Community Capacity Survey (ACCS) (Mazerolle et al., 2010), combined with Australian census data from 2001 and 2011. Typically, studies interested in assessing the ‘effect of neighbourhood’ conditions on particular outcomes compare static or cross-sectional estimates of the concentration of conditions, rather than considering the influence of living in a changing neighbourhood (Lupton and Power 2004). This preliminary analysis provides an important opportunity to examine the connection between living in a changing neighbourhood and the diversity of neighbourly problems experienced across urban areas.

**The Brisbane context**

The metropolitan area of Brisbane, Australia and its adjacent urban centres is a particularly salient site for the study of urban change given its status as one of the fastest growing urban regions in Australia (Buys and Miller, 2012). For analytical purposes, this area is known as the Brisbane Statistical Division: a standard geographical classification area devised by the Australian Bureau of Statistics to refer to a relatively homogenous urban region ‘characterised by identifiable social and economic links between the inhabitants and between the economic units in the region, under the unifying influence of one or more major towns or cities’ (Australian Bureau of Statistics, 2001). In this case, the Brisbane Statistical Division incorporates the Queensland capital city of Brisbane, plus the cities of Ipswich and Logan and the regional centres of Caboolture and Redcliffe. Combined, this area has an estimated 2011 population of 2.08 million people, which is expected to reach 3 million by 2031 (ABS, 2011). Much of this growth is anticipated to occur in the outer suburbs and the so-called south-western
‘growth corridor’ towards Ipswich and Logan, both of which contain a significant proportion of lower-cost housing and low income residents (Queensland Department of Infrastructure and Planning, 2009). In Logan, for example, the resident population is anticipated to increase from a current baseline of 287,000 residents to 452,000 by 2031 with 40% of all new housing expected to take the form of residential infill or redevelopment. Recognising the problems associated with its present concentration of social housing in specific neighbourhoods, a key part of Logan’s future development is a housing renewal initiative designed to create ‘mixed communities’ that improve social cohesion and social and economic participation by residents’ (Queensland Department of Housing and Public Works, 2012). In terms of ethnic diversity, Forrest and Dunn (2011) also observe notable spatial patterns, with the most diverse suburbs located in the affluent central city areas; lower-income areas to the south and west indicating clusters of south-east Asian and Muslim populations; and middle ring suburbia containing ‘intermixing’ of Asian, Muslim and some Italians.

The inner city and adjacent waterfront areas of Brisbane have also enjoyed higher than average levels of population growth in the last decade or two, spurred on by the city council’s urban renewal program which sought to regenerate previously industrialised areas (Office of Economic and Statistical Research, 2010). In line with gentrification theories, these neighbourhoods also experienced high levels of growth in the proportion of professional households (Stimson and Taylor, 1998), as well as increased levels of density, although Mitchell and Wadley (2004) initially concluded that this was more likely the result of internal housing market dynamics than a deliberate policy of urban consolidation. More recently, however, Randolph (2006) has predicted that by 2030, 67% of all new housing developments (426,000) in Brisbane will occur through high density developments, urban infill or renewal areas, while McCrea and Walters (2012) point to the existence of local neighbourhood plans for consolidation, not only in inner city areas, but also in the outer suburbs. The present pace of change and the prospects for this to accelerate prompt Buys and Miller to classify Brisbane as a ‘transitional urban environment’ as opposed to a ‘completely consolidated’ one (2012: 324) which confirms our assessment of the region as a suitable site for study.

Data
The general aim of the ACCS survey is to examine the social processes associated with spatial variations in crime and disorder across urban areas. We use data collected in 2011, representing the fourth wave of the ACCS, from the Brisbane Statistical Division. The stratified sample design incorporates the multilevel nature of the survey’s aims to assess both within- and between-neighbourhood effects. The sample consists of 148 randomly drawn neighbourhoods or ‘suburbs’ from a pool of 429 suburbs (excluding large industrial commercial areas). Within selected suburbs, random samples of residents over the age of 15 years were drawn. The within-suburb sample size is proportionate to the population size of the suburb. Our analyses rely on a series of questions about neighbour problems added to the ACCS for the first time in the fourth wave. The analytical sample for our study excludes one neighbourhood due to between-wave boundary changes, resulting in a final sample size of 4,088 respondents living in 147 neighbourhoods. Our interest lies in average neighbourhood responses to each of the neighbourly problem items and, as a result, we aggregated the survey responses to the Brisbane suburb-level based on the responses from on average 28 respondents per suburb. To assess neighbourhood-level social processes, we rely on cross-sectional data from the 2001 and 2011 Australian census, aggregated to the suburb-level. To overcome variation in some suburb boundaries over the decade period, the ACCS and ABS 2001 and 2011 census data were geocoded to the same 2006 ABS suburb boundaries.
Measures

**Neighbour problems**: respondents were asked whether they had experienced a range of different problems with neighbours while residing in the current suburb. We considered nine of these items in the analysis including survey respondents’ reports of problems with a neighbours’ unsightly or messy property; boundaries and fences issues; domestic animals; building and development issues; unruly or anti-social behaviour; vehicles; pollution (including odours and smoke); noise; invasion of privacy; damage to property/theft; and physical abuse, threats and intimidation. We summed the positive responses for each problem type for each neighbourhood. We then created binary variables where 1 = a neighbourhood count above the sample mean for the problem type and 0 = a neighbourhood count below the sample mean for the problem type.

**Covariates**: We calculated neighbourhood social change variables in four domains – gentrification, heterogeneity, social housing and densification. The first three variables involved ratio-level (percentage) census variables and we followed Kitchen and Williams (2009) and Atkinson (2000) by measuring change via percentage point increases or decreases over a decade period. This was a simple subtraction of the value of one of our social measures at the first time point (2001) from the value at the later time point (2011). These ‘change variables’ were then weighted by the neighbourhood population size changes over the period. We were interested in the possible influence of the highest level of change for each variable. As a result, we created binary variables where 1 = a change score at or above the highest quartile of increase, and 0 = a change score below the highest quartile of increase. Each of the social change variables were derived from census variables as follows.

**Gentrification**: Following Atkinson (2000) and others (Hamnett and Williams 1979; Galster and Peacock 1986), we used changes in the proportion of professionals and managers among working age adults as a proxy for gentrification.

**Heterogeneity**: was derived from decade changes in the proportion of non-English speaking residents among the total population in a neighbourhood.

**Social housing**: was derived from decade changes in the proportion of social public housing rentals among total occupied dwellings in a neighbourhood.

The final change variable – *densification* – was derived from a combination of an interval-level variable (residential population density) and a ratio-level (percentage of flats/units/apartments among...
total occupied private dwellings). Using the process described above, binary change variables were first constructed for both population density and percentage flats. Subsequently, we created a combined binary score where neighbourhoods in the highest two quartiles of change for both variables were coded as 1 and the rest coded as 0. The combined binary change variable resulted in 30.6% of neighbourhoods being categorised as 1.

**Analytical plan**

To examine whether we could discern unique subgroups of neighbourhoods based on their neighbour problem profiles we employed latent class analysis (LCA) (Lazarsfeld and Henry, 1968; Muthén 2001). LCA is a form of finite mixture modelling that aims to identify underlying structures in the data based on observed categorical variables. We estimated two sets of parameters: (1) latent class probabilities which describe the distribution of the classes of the latent variable and reflect the proportion of ‘individuals’, or in our case ‘neighbourhoods’, within each class; and (2) conditional probabilities which describe the nature or the meaning of the classes and describe the probability that a neighbourhood in a particular class falls at a particular level of the observed variable. In the case of the binary neighbourly problem variables used in this analysis, the conditional probabilities describe the proportion of neighbourhoods within a particular class that have an above average level of a particular neighbourly problem type. We estimated models using Mplus version 6 (Muthén and Muthén, 1998-2007).

As a first step, the latent class model for the overall sample was selected based on the diagnostics presented in Table 2. We fit a sequence of models with one to five classes. To select an optimal model we considered a variety of diagnostic tools – Akaike’s Information Criterion (AIC) (Akaike, 1974), the Bayesian Information Criterion (BIC) (Schwarz, 1978), the sample size-adjusted BIC, the likelihood ratio (LR) χ2 test, and entropy. BIC and AIC are penalized loglikelihood model information criteria and in both cases a smaller value indicates a better and more parsimonious model. Entropy provides an indication of the confidence one can have when assigning individuals to classes where values closer to 1 indicate greater quality of classification. We also considered the face validity, or the extent to which the classes could subjectively be considered to reflect the profile of neighbourly problems in the Brisbane area. Parameter values were obtained through maximum-likelihood (ML) estimation.

Next, to examine the association between neighbourly problem subgroups and having a high degree of neighbourhood social change, latent class multinomial logistic regression models were run separately for each of the four neighbourhood change variables. In this case, a standard baseline-categorical multinomial model (Agresti, 2002) was appropriate since the dependent variable, latent class membership, contains multiple categories (classes), and the probability of class membership depends on the presence or absence of a covariate, in this case, a high level of change in either gentrification, heterogeneity, social housing or densification (Muthén, 2001).

**Results**

*Are there unique subgroups of neighbourly problems across neighbourhoods?*

To assess the first question, we fit models with one through six latent classes (Table 2). The model diagnostics suggested at least a three-class model (based on AIC and BIC) and at most a five class model (based on Entropy). Base on the overall fit to the data, and the distinctiveness and meaning of the classes, we selected the three-class model.
Figure 1 shows the parameter estimates from the three-class model, including item-response probabilities and the percentage of the sample that fell into each class. About 38% of neighbourhoods fell into Class 1 which is characterised by low probabilities for above average levels of all of the problem types. Class 2 comprises just over one-quarter (27%) of neighbourhoods which share high probabilities for problems emanating from boundaries, building and development issues and domestic animals, while 35% fell into Class 3 which has high probabilities for above average levels of noise, odours, parking issues, unruly or antisocial behaviour, and property damage. Broadly speaking, Classes 2 and 3 can be distinguished from each other in that Class 2 annoyances derive from ‘property and pets issues’ and Class 3 from ‘neighbour conduct’.

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</tbody>
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Note. LL, Log-likelihood; AIC, Akaike information criterion; BIC, Bayesian information criteria; SS adj. BIC, sample size adjusted BIC; Entropy, average quality of classification--values closer to 1 indicate better classification of neighbourhoods to classes. Boldface type indicates the selected model for that indicator.

Does a high degree of neighbourhood social change predict membership in classes? In a final set of analyses, we used multinomial regression to test whether there was an association between the unique neighbour problem subgroups identified above and neighbourhood social change variables. In four separate regression models we estimated the odds of membership in classes 2 and 3 relative to the low-level problem – class 1 (reference category). Model 1 in Table 3 shows that
gentrification increased the odds of a neighbourhood belonging to Class 2 where residents were more likely to encounter problems over fencing, boundaries, buildings and domestic animals, but not Class 3 where residents were more likely to be annoyed by neighbour noise and general forms of anti-social behaviour. More specifically, compared to neighbourhoods with a lower degree of change in the direction of gentrification, those with the highest degree of change toward gentrification – measured as the highest quartile of change in the proportion of managerial and professional occupations (Atkinson 2000) – had odds of membership in Class 2 that were nearly 4.5 times higher (p < 0.05) than in the low-level problem class (reference).

The reverse was true for densification (model 2) which increases the odds membership in Class 3, but not Class 2. In fact, compared with neighbourhoods with lower change in densification, those with the greatest decade changes toward densification had odds of membership in the neighbour conduct class that were over three times higher (p < 0.05) than in the low-level problem class (reference).

Model 3 shows that relative to the low-level problem class, neighbourhoods with the greatest growth in ethnic concentration measured by the proportion of non-English language speakers, had about 50% (p < 0.05) higher odds of being in the ‘properties and pets’ class and 73% (p < 0.05) higher odds of being in the ‘neighbour conduct class’. Thus, where the highest rate of increase in ethnic concentration occurred, neighbourhoods could also be expected to fall into classes with higher problems (class 2 and 3) than lower problems (class 1, reference). Finally, model 4 shows that there were no statistically significant findings with respect to increases in social housing as an explanation for class membership.

### Table 3

<table>
<thead>
<tr>
<th>Association between highest increase neighbourhood change variable and class membership: Latent class logistic regression, unadjusted odds ratios (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Odds ratio</strong></td>
</tr>
<tr>
<td>Mode 1: Gentrification</td>
</tr>
<tr>
<td>Class 1 Low-level problems (reference)</td>
</tr>
<tr>
<td>Class 2 Boundary, building and animals</td>
</tr>
<tr>
<td>Class 3 Noise, unruly behaviours and property damage</td>
</tr>
<tr>
<td>Mode 2: Densification</td>
</tr>
<tr>
<td>Class 1 Low-level problems (reference)</td>
</tr>
<tr>
<td>Class 2 Boundary, building and animals</td>
</tr>
<tr>
<td>Class 3 Noise, unruly behaviours and property damage</td>
</tr>
<tr>
<td>Mode 3: Increasing ethnic concentration</td>
</tr>
<tr>
<td>Class 1 Low-level problems (reference)</td>
</tr>
<tr>
<td>Class 2 Boundary, building and animals</td>
</tr>
<tr>
<td>Class 3 Noise, unruly behaviours and property damage</td>
</tr>
<tr>
<td>Mode 4: Increasing social housing</td>
</tr>
<tr>
<td>Class 1 Low-level problems (reference)</td>
</tr>
<tr>
<td>Class 2 Boundary, building and animals</td>
</tr>
<tr>
<td>Class 3 Noise, unruly behaviours and property damage</td>
</tr>
</tbody>
</table>

* p < 0.05; ... not applicable

n = 147 suburbs

**Discussion: neighbourhood change and the patterning of neighbour problems**

Where previous work considering the effects of social conditions on outcomes in neighbourhoods has tended to rely on static or cross-sectional estimates of those conditions, our objective in this study has been to focus on the extent of change as a factor that might influence the pattern of neighbour problems experienced across a representative sample of urban neighbourhoods. We also wanted to consider the mix in neighbour problem profiles across neighbourhoods, rather than assuming that
problems occur one at a time, or in isolation from each other. To accomplish this we employed a latent variable approach to classifying neighbourhoods, which permitted us to identify unique subgroups of neighbourhoods based on their neighbourly problem profiles. Overall, our results indicate that the mix of neighbourly problems does vary across the urban neighbourhoods in our sample. Specifically, the results point to three distinct profiles of neighbourly problems. First, a subgroup of neighbourhoods with higher probabilities of between-neighbour problems relating to boundaries, buildings/structures and domestic pets (Class 2); second, a subgroup with high probabilities of between-neighbour problems such as noise, unruly and antisocial behaviour and property damage (Class 3); and a third subgroup of neighbourhoods with low probability of residents experiencing any of the problem types (Class 1).

In assessing the characteristics of those suburbs experiencing the different problem clusters, a number of distinct patterns have emerged. Most notable is that neighbourhoods experiencing the highest levels of change in the direction of gentrification and densification over the last decade have a greater likelihood of experiencing quite distinct sets of problems. Indeed, as Table 3 illustrates, the process of gentrification increases the likelihood of neighbourhood falling into the Class 2 category of problems by almost five times, while densifying suburbs are three times more likely to fall into Class 3. Less acute, but still significant, are the additional findings that increasing levels of neighbourhood ethnic diversity increases the odds of affected neighbourhoods encountering both sets of problems by over 50% while increases in social mix via a rise in social housing produce no significant change.

In attempting to account for these trends, insights can be drawn from previous research on the likelihood of neighbour problems emerging under conditions of gentrification, social mix and medium or high density living, although there is limited evidence on the specific kinds of problems likely to be encountered. This is especially so in studies of gentrifying suburbs which generally report minimal interaction between middle class newcomers and working class incumbents, and positive or neutral relations among gentrifiers themselves (Butler and Robson, 2001; Watt, 2009). In this paper, we are unable to specifically identify which neighbours cause annoyance to our respondents although this also means we cannot overlook the rather obvious possibility that even when households of similar income, values and dispositions cluster together, neighbourly relations will not always be harmonious. Indeed, as Baumgartner’s classic study of an affluent New York suburb illustrates (1988) the impression of harmony and civility in high income suburbs conceals a range of problems and irritations between neighbours that are managed through avoidance, tolerance and a ‘moral minimalism’.

Nevertheless, it is apparent from our findings that gentrification is associated with particular types of neighbourhood nuisances. Quoting Robert Frost’s famous poem ‘Mending Wall’, Merry (1993: 72) makes the common observation that ‘good fences make good neighbours’ because they diminish the opportunity for conflict to occur by providing ‘peace and privacy from the prying eyes of neighbours’. Yet fences, along with other structures such as walls, trees and buildings which separate one home from another and which demarcate the private space of home from the public space where neighbouring occurs (Stokoe and Wallwork, 2003) are also a common source of tension and conflict among neighbours (Gastaldon, 2010). Problems between neighbours over encroaching boundaries, dividing fences in need of repair, building developments that diminish visual amenity, water run-off from neighbouring properties, and nuisance or overhanging trees illustrate clearly Stokoe and Wallwork’s observation (2003) that even when the law operates to demarcate individual properties as private, there is an ambiguity surrounding boundaries of space which increases the likelihood of disagreement and conflict arising.

The fact that these problems are most likely to be encountered in highly gentrifying suburbs can partly be explained by the extensive development that often accompanies the immigration of the middle classes into a neighbourhood. As others have consistently noted, one of the clearest signs of gentrification is the change to the physical environment and housing stock as older properties are upgraded through building and redevelopment. Bridge (2006a, 2006b) describes this in terms of the transformation of housing as a form of economic capital into ‘objectified cultural capital’ – a
‘gentrification aesthetic’ (2006a: 1967) – where a rehabilitated but authentic heritage home functions as a visible class marker to denote a sign of distinction. If intensively gentrifying suburbs are also encountering extensive building and renovation work, it is invariable that problems over matters such as boundaries and buildings are likely to arise between neighbours. On the other hand, Shaw (2004) notes that many later stage gentrifiers are likely to purchase their homes ready-renovated, which would suggest that such problems are not directly associated with an intensive phase of construction. Instead, it may relate to a more general preoccupation among the middle classes with the home as a symbol of identity, the enhancement of property values (Baskin, 1989) and the preservation of what Atkinson and Blandy (2007: 450) term ‘domestic sovereignty’. For them, the protection of domestic sovereignty is connected to the rise of a ‘defensive homeownership’ which manifests itself through aggressive forms of boundary maintenance and home protection with the aim of keeping the ‘other’ out. While Atkinson and Blandy refer specifically to the protection of the home from invaders and crime, the concept of defensive homeownership might usefully be extended to include other, much more benign, forms of threat to the sovereignty of one’s territory – including its views, sunlight and scenic amenity – via the encroachment of neighbours’ fences, extensions boundaries, trees and pets.

By way of contrast, our findings demonstrate that densification or urban consolidation increases the chances of neighbourhoods experiencing quite different and distinctive sets of neighbour problems. If gentrification leads to problems relating to property and pets, increasing the residential density of an urban area appears to generate problems pertaining to the conduct of neighbours themselves, such as neighbour noise, unsightly or messy properties, unruly or anti-social behaviour, damage to property and, to a lesser extent, parking. To a large degree, such problems are relatively predictable in a spatial setting where compact living in close proximity to others is a defining feature. Indeed, previous research has clearly identified aspects of high density living that are likely to cause tensions between neighbours, including limited parking, increased noise and the absence of many visual buffers between neighbours which limits opportunities for privacy (Thomas et al., 2011). While not looking explicitly at high density living, Stokoe (2006) identifies how offence can be caused to others, even inadvertently, when the sights sounds and smells of private lives encroach into other people’s domestic spaces. Understandably, the risks of this occurring are heightened in a denser living environment. They can also be especially acute in previously low density neighbourhoods experiencing growth through in-fill development of townhouses and low rise apartments blocks where existing properties are overlooked by new developments and where residents may encounter increased competition for parking space (Cook et al., 2013).

But as Stokoe (2003: 322) also points out, neighbour codes of acceptable conduct are not objectively derived, but are ‘morally flavoured’ by judgements about the social categories neighbours inhabit, as (for example) renters, homeowners, parents or ethnic minorities. Frequently inhabited by young single people in private rental accommodation (Randolph, 2006), areas of increased residential density comprise a space where judgements over appropriate ‘grammars of living’ (Flint, 2003: 614) are formulated according to longstanding assessments of rental tenants and young people as problematic social categories, especially when they live next door (Perin, 1977; Kenyon, 1997; Cheshire et al., 2010). This too may explain the patterns of problems found in areas of increasing density, particularly since research has shown that although young renters are over represented in these spaces, there is a growing trend towards older ‘empty nesters’ who downsize from their suburban homes into city apartments (Buys and Miller, 2012). From their perspective, renters comprise a liminal, transitory group with little attachment to home or neighbourhood, little consideration of the effects of their conduct on others and a tendency for excessive noise and disruptive behaviour (Baker 2013). To some extent, this is supported by empirical findings and theories of social disorganization which consistently show that neighbour problems are higher in areas of high residential mobility where opportunities for the establishment of shared norms and values are weakened by the transitory nature of the resident population. For Baker (2013: 10), tensions thus arise from a clash of different value systems which, while not restricted to high density living, is nevertheless accentuated by its spatial form given the presence of communal spaces and facilities as well as the proximal nature of residents’ private properties’.
Our third set of findings – that shifts toward higher concentrations of ethnic minority populations are associated with both Class 2 and Class 3 sub-groups of neighbourhoods – can also be understood with reference to theories of social disorganisation and the eroding effects of ethnic diversity on social cohesion, neighbourly interactions and social capital (Putnam, 1997; Alesina and La Ferrara, 2002). In our previous, cross-sectional and multilevel analysis of the patterning of individual neighbour problems by neighbourhood type (Cheshire and Fitzgerald, 2013), we found that ethnic heterogeneity had no effect on the individuals’ experiences of neighbour problems, suggesting instead that neighbourhood disadvantage might be more influential. In this sense, our findings were consistent with those of Taylor et al., (2009), Lawrence (2011) and others. While our analytical approach in this paper does not allow us to separate the influence of ethnic diversity from that of neighbourhood disadvantage, our preliminary assessment is that the changing composition of neighbourhoods, caused by a higher than average increase in ethnic diversity over time, does have some effect on the average level of neighbour problems being encountered, even if it remains strongly associated with a concomitant increase in the proportion of low income inhabitants. What is most notable, however, is that growing ethnic diversity increases the probability of a neighbourhood experiencing all types of problems, with no discernible pattern of problem type observed, as with gentrifying and densifying areas. The most feasible explanation, then, has less to do with the kinds of problems likely to be encountered in these neighbourhoods than the possibility that changes in this direction diminish neighbourhood social cohesion, increase distrust of one’s neighbours and render neighbourhoods less harmonious than those which are ethnically more stable (Guest et al., 2008; Lawrence, 2011).

Finally, we observe that increases in social housing have no significant effect on the likelihood of neighbourhoods exhibiting particular types of neighbour problems. While this might appear counter-intuitive given previous research suggesting that increasing social mix by tenure is more likely to generate difficult or absent, rather than harmonious, relations between neighbours, the results are more likely a reflection of the relatively low proportion of public housing in the Brisbane area and, more importantly, in the small increase of the stocks of social housing over the last decade. Indeed, as Atkinson and Jacobs (2008) report, the common trend throughout Australia is for a decline in public housing, both in terms of overall numbers and as a proportion of the total housing sector. With plans afoot in neighbourhoods such as Logan for housing renewal initiatives and greater social mix by tenure, the effect of such strategies on neighbour relations may need to be examined through other, more qualitative, techniques that are sensitive enough to smaller levels of change.

Conclusion

This study represents an exploratory examination of the relationships between neighbourly problem mix and neighbourhood social change. To date, there is a paucity of research in this area, not only on the issue of neighbourhood effects and neighbour problems more broadly, but also more specifically on the effects of temporal change to the urban form in predicting the likelihood of problems arising, as well as a more detailed assessment of the kinds of problems that are likely to arise in specific settings. In this study, we have demonstrated how intensely gentrifying suburbs have a tendency to exhibit problems relating to property and pets, which we have explained in part with reference to the process of converting property as economic capital to a form of objectified cultural capital (Bridge, 2006a) via building renovations and repairs, and partly to a general disposition among the middle classes for what Atkinson and Blandy (2007) refer to as defensive homeownership. In contrast, neighbourhoods experiencing above average levels of densification through urban consolidation are more likely to exhibit problems of neighbour conduct, with residents often viewing their neighbours as excessively noisy, unruly and anti-social. Here, the causes are likely to be found in the close proximity within which people play out their private lives, often separated only by walls or ceilings. But they may also be informed by a broader set of moral judgements about the inhabitants of high and medium density living – typically young people and renters – whose transient lifestyle may clash with that of an older, owner-occupier demographic. Similarly, increasing levels of ethnic homogeneity also appear to increase the likelihood of residents being annoyed by their neighbours although here, the
problems are general rather than specific and may relate more broadly to a decrease in levels of
neighbourhood trust and cohesion which is typically seen to occur under these conditions.

It is important to note, however, that the study remains limited, and its findings provisional, in a
number of ways. Importantly, our outcome variable was cross-sectional. As a result it was not
possible to track changes in neighbour problems along with corresponding changes in social
conditions, nor to make any statements about the power of neighbourhood change as a predictor of
future levels of neighbourly problems. Second, in this study we have followed the work of others
(Kitchen and Williams 2009; Reibel and Regelson 2011) in examining transformations in our social
change variables of interest over two time points. This approach has been demonstrated to present a
vast improvement over strategies for measuring neighbourhood change that rely on a cross-sectional
approach (Kitchen and Williams 2009). Nonetheless, given the potential complexity of patterns of
change within neighbourhoods over periods of time, in future work we test the validity of our current
results using a latent class growth modelling approach (Collins and Lanza 2009; Séguin et al., 2012)
to more precisely identify the trajectories of change in social conditions over multiple time points, and
to assess whether and how neighbour problems might be associated with these trajectories.

Despite this, our findings enhance our understanding of the effects of social change in urban
residential areas, while also having implications for those engaged in the planning and governance of
urban land. Critiques of urban consolidation, for example, have long warned of the tensions likely to
occur in higher density areas if effective parking provision, noise mitigation, management of
communal areas and protection of privacy are not factored into the design of new developments
(Randolph, 2006). This is particularly so in countries such as Australia where urban consolidation is
viewed as a key strategy for mitigating the effects of urban sprawl, yet where a cultural preference
against anything other than low density living remains (Buys and Miller, 2012). Similarly, in areas
subjected to gentrification, many of which contain older style housing that may have the appeal, but
not the amenity, required by professional middle class occupants, it is inevitable that conflicts over
land use and the appropriateness of certain developments are likely to emerge between those seeking
to generate economic and symbolic capital from their home and neighbourhood. To date, there has
been little recognition of the potential for conflict to arise among the gentrifying classes, with most
work examining their common values and aspirations and the way these are realised through the
deployment of social capital (Butler and Robson, 2001). Baumgartner (1988) and Merry’s (1993)
observations of neighbour problems in affluent suburbs being managed by ‘privacy, avoidance and
law’ (Merry, 1993: 83), may be relevant here, but further work is needed before such conclusions can
be fully formed. This leads to our final point about the relevance of our findings as they relate to those
tasked with the job of managing neighbour disputes, most notably local councils. With complaints
about neighbours thought to be increasing, additional work is required to examine the formal and
informal ways problems between neighbours are managed, the conditions under which annoyances
are generated into complaints and disputes, and their implications for neighbour relations more
broadly.

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Endnotes

1 In the discussion of results we use the terms “neighbourhood” and “suburb” interchangeably. In Australia, the term “suburb” is used to refer to a relatively stable and demographically homogenous local area that in other contexts would be referred to as a “neighbourhood”. Suburbs are similar to census tracts in the U.S. and Canada and super output areas in the U.K. However, Australian suburb boundaries are not determined by population size, but instead by local councils, based on local/historical recognition of the area.