

The reality of locational social disadvantage: what could help to reduce its ill-effects?

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It seems somehow appropriate in Australia's oldest university to help launch this festival with discussion of a research method that is approximately of the same vintage. There is a long tradition of studying social inequalities and their effects by comparing geographic areas. Mayhew's (1861) study of the spatial distribution of crime in mid-19th century Britain and Wales and its relationship to other variables, including illiteracy, was an early example of the social-geographical approach to the understanding of social issues. The approach is thought by its adherents to throw light upon the relationship between an issue of special interest (mental illness, child maltreatment and the like) and what are called 'ecological' variables, such as disadvantage and urbanisation. An early Australian study of the relationship between 'disadvantage' and crime was the study of 72 minor suburbs of Newcastle in the 1970s (Vinson & Homel, 1975). A composite index of disadvantage based on medical, economic and social variables correlated strongly with the residential areas of offenders.

Like every method of research, the social-geographic approach has its advantages and limitations. More recent research in this tradition has relied heavily on census boundaries of varying scales in order to take advantage of population statistics. That is, we tend operationally to define the concept of *neighbourhood* in terms of standard census units. However, the larger the unit, the greater the possibility of losing sight of a spatial concentration of problems diluted in the course of aggregating an area's attributes. Just how important this can be was brought home by some research that I conducted with colleagues in a suburb of Western Sydney (Vinson, Baldry & Hargreaves, 1996). The suburb had been nominated by the NSW Department of Community Services as one with a relatively high rate of confirmed child maltreatment but one of the two census units that comprised the locality had a high rate of 53.0 per 1000 children while

the other had a relatively low rate of 8.1. This was despite the fact that the areas appeared well matched on a range of socio-economic factors. Moreover, there were remarkably few significant differences between them on a range of social measures that we employed, including assessments of social cohesion and the support extended to parents and carers.

This picture changed dramatically when we altered our focus from the census boundaries to clusters of residences in which children with confirmed instances of maltreatment lived. A template encompassing 200 square metres was used and a cluster was said to exist when that space contained at least three homes within which confirmed maltreatment had occurred during the previous three years. Subsequent comparisons were between *cluster area parents/carers* and their counterparts living in the remainder of the suburb. The scales and questionnaire items that had previously failed to discriminate between the high and low risk child maltreatment areas now revealed significant differences. An example: asked to agree or disagree with the statement 'I feel like I belong to this neighbourhood', more than twice as many carers (56%) in the cluster areas disagreed compared with 24% of the carers living in the remainder of the suburb ($\chi^2 16.0$ (1df) $p < .001$). Cluster area residents gave other indications of being decidedly less attached to their area. On 16 of the 18 items on the Buckner (1988) social cohesion scale the cluster carers took a more negative view of their neighbourhood.

Community service practitioners who worked in the suburb were able to draw the outlines of cluster areas with respect to child maltreatment with a degree of precision that made their estimates a workable proxy for the official data. They described the areas concerned as being characterised by violence, clannishness, addiction, unsociability and child neglect, giving rise to the question of whether micro-social environments may be associated with child maltreatment. That is an interesting issue but the important point to make for the moment is that basing social ecology studies on census units has its advantages but at times other strategies can be more fruitful.

In recent mapping of disadvantage throughout Australian states and territories (Vinson, 2007) use has been made of indicators or 'signposts' which, taken in combination, help to identify areas of concentrated disadvantage. It needs to be emphasised that the primary purpose was not to

reveal causal patterns but rather to bring into focus areas of concentrated disadvantage. To be included, indicators needed to be direct manifestations of disadvantage entailing a minimum of theoretical supposition, for example, about the disadvantageous consequences of people belonging to particular social or cultural groups or having a particular marital or family status. Some of this material can be extracted from the Bureau of Statistics, but much has to be garnered from government departments and agencies; things like confirmed child maltreatment, prison admissions, criminal court convictions, domestic/family violence, and psychiatric hospital admissions. Assembling this data on a national scale proved difficult. In any event it was possible to gather around 25 of the following indicators for all states and the ACT, the social structure of the Northern Territory and the limited data available virtually excluding that jurisdiction from the analyses made on this occasion:

Table 1. Overview of indicators used

Measure	Data Source
1. Social distress	
Low family income Rental stress Home purchase stress Lone person households	Census of Population and Housing, 2006
2. Health	
Low birth weight Deficient immunisation	State Departments of Health (except Western Australia), and Victorian Department of Human Services, 2006
Childhood injuries	Accident Research Centre, Monash University, 2006
Disability/sickness support	Centrelink, 2006
Mortality (life expectancy)	Australian Bureau of Statistics, <i>Deaths Australia</i> , 2006

Measure	Data Source
Mental health patients treated in hospitals	Departments of Health (except South Australia and ACT), Victorian Department of Human Services, 2006
Suicide	Cabinet and Policy Group (ACT); Dept of Communities (QLD); Department of Premier and Cabinet (Tasmania), 2005/06
3. Community safety	
Confirmed child maltreatment	NSW Dept Community Services, 2006; Victorian Department of Human Services, 2006; QLD Department of Communities, 2006; South Australian Public Health Information Development Unit, University of Adelaide, 2002
Criminal convictions	Published and administrative data, State Justice Ministries (except Western Australia), 2006
Prison admissions	Administrative data, State Departments of Corrective Services, 2006
Domestic violence	Published and administrative data, State Justice Ministries (except Tasmania and Western Australia), 2006
4. Economic	
Unskilled workers	Census of Population and Housing, 2006
Unemployment	
Long-term unemployment	Centrelink customised data, 2005/06 and Census of Population and Housing, 2006
Dependency ratio (employed: unemployed)	Census of Population and Housing, customised tables, 2006
Low mean taxable income	Australian Tax Office, 2006
Computer use	Census of Population and Housing, 2006
Access to internet	

Measure	Data Source
5. Education	
Non-attendance at pre-school	Census of Population and Housing, customised data 2006
Incomplete education/training (17–24 year olds)	Census of Population and Housing, customised data 2006
Early school leaving of local population	Census of Population and Housing, 2006
Post-schooling qualifications	Census of Population and Housing, 2006

Of specific interest are the interconnections between the different strands of disadvantage and the ways in which they unfold at different stages of the life-cycle with consequences for individuals, the communities in which they reside and society generally. The ultimate purposes of the project are to promote greater life opportunities where presently they are in markedly short supply and to do so to the economic and social advantage of the society generally. A major perspective in the research is that where an accumulation of problems makes a serious and sustained impact upon the wellbeing of residents of a disadvantaged area, locality-specific measures may be needed to supplement general social policy. When social disadvantage becomes entrenched within a limited number of localities, a disabling social climate can develop that is more than the sum of individual and household disadvantages and the prospect is increased of disadvantage being passed from one generation to the next. That is not to imply that the causes of disadvantage reside entirely within local areas: structural macroeconomic factors also play a part in creating concentrations of poverty.

The social-geographic study of disadvantage is best undertaken at the smallest geographic scale for which relevant data can be obtained. In the present study it has proved possible to employ postcode area data for New South Wales, Victoria and the ACT. The data sources in Queensland and South Australia required analysis at the level of ‘Statistical Local Areas’ and in Tasmania and Western Australia ‘Local Government Areas’

have been used. Needless to say, the raw data in all instances is converted into a rate based on the number of eligible people residing in a locality. For instance, the number of confirmed instances of child maltreatment is expressed as a rate per 1000 of children residing in an area aged 15 years or younger.

The primary interest in this project is in extreme disadvantage, communities that have ‘fallen off the edge’. Most striking are the comparative rates of occurrence of problems within the extremely disadvantaged localities in each state and the ACT and the rest of the population in each jurisdiction.

Identifying Disadvantaged Areas

Two approaches have been used in *Dropping Off the Edge* to identify areas of marked disadvantage. One is comparatively simple; the other is less straight-forward and of a more statistical nature.

Simple method

The first scan of the distribution of disadvantage was based on the identification of localities with ‘comparatively high scores’ on some – upwards of six and sometimes as many as 12 – of the indicators. The procedure adopted was to rank the geographic units on each indicator assigning first position to the locality with the highest negative score (the highest rate of early school leavers, the highest number of residents on sickness/disability payments and so forth). Then a calculation was made of the number of times each area fell into the ‘top group’ of most disadvantaged places, defined as approximately the top 5% (with minor variations depending on the number of localities involved in each jurisdiction). Thus we derived a first estimate of the relative disadvantage experienced by each locality. Coincidentally, this procedure also throws light on the extent to which ‘high’ (that is, negative) scores are concentrated in a comparatively small proportion of the areas studied. For example, in Victoria, 25 indicators were used and to be in the ‘top 5%’ on each one meant being in the first 40 rank positions. Accordingly, in Victoria there were 25 x 40 (total 1000) positions to be filled. In fact, 1.5% of the postcodes accounted for 13.7% of the top 40 positions – a ninefold over-representation. And so it was generally: across the jurisdictions, 1.5% of localities accounted for six to seven times their share of top ranking positions.

The simple method used to gain this first picture of localised disadvantage turns on the prominence of some areas on some of the indicators. This is different from the second approach which simultaneously takes into account an area's rankings, high and low, on *all* of the indicators. Keeping that difference in mind the first method identifies 20–30 places in the larger jurisdictions and 15 or fewer in the smaller states that are at the extremes on six or more measures of disadvantage. It will be seen that there are considerable overlaps in the results produced by both basic methods. Having high scores on several indicators attracts, for reasons possibly as varied as stressful environments and extra social surveillance, high positions on what might be considered signs of extreme disadvantage – such as confirmed child maltreatment and prison admissions. The principal recurring features of areas prominent on some indicators are:

- limited general education (early school leaving); Year 12 incomplete
- limited computer use/internet access; lack of post-school qualifications (no further training)
- low family income
- unemployment/long-term unemployment
- disability/sickness support
- criminal convictions/imprisonment
- child maltreatment.

Statistical method

Overall locational vulnerability

The ultimate aim of the project was to pull together the information that we have about the postcode areas, Local Government Areas (LGAs) and Statistical Local Areas (SLAs) with a view to assessing their *overall* susceptibility to social disadvantage. Our goal was the practical one of summing up the information to hand in a way that enabled the localities within each jurisdiction to be ranked according to their relative degree of disadvantage. Our aim was to arrange the localities in an array, like beads on a string, ranging from the area that is most generally vulnerable to the problems represented by our indicators, to the one that is least vulnerable. Thereafter, we grouped like-positioned areas into bands, thereby avoid-

ing the singling out of localities for concentrated public comment while keeping sight of the priority needs associated with a high ranking on the general disadvantage index.

There is a statistical procedure that we can call upon to assist us in this endeavour. Our use of this procedure – called Principal Components Analysis – is conventional and in accord with standard practice when we apply it to the five jurisdictions with substantial numbers of data collection units (Victoria, New South Wales, Queensland, South Australia and Western Australia). In the cases of Tasmania and the Australian Capital Territory we employed Principal Components Analysis in an exploratory way in an attempt to add additional insights, cautiously interpreted, to those already available from the earlier mentioned analyses (Osborne & Costello, 2004). The method examines the structures that underlie the patterns of correlation between the social indicators. If what is called the first *component* accounts for a sufficiently high percentage of the total variance of the 20–25 indicators in each instance, the task of arranging localities according to their degree of susceptibility to disadvantage is reduced to examining scores along a single dimension.

A brief consideration of the results for New South Wales suffices to illustrate the general approach. The principal component or *general disadvantage factor* accounted for 42.8% of the total variance of 25 indicators across 647 postcodes. This result approximates to findings obtained using a similar approach in 1999 and 2004. The general disadvantage factor captures along a single dimension many aspects of disadvantage previously reflected in 25 indicator scores. What were the more salient ones? In the case of NSW 14 indicators correlated with the factor at the +0.60 level or above. The same variables, when available, correlated to an equal extent with the NSW general disadvantage factor in 1999 and 2004. The highest correlating indicators were:

- limited computer use/internet access
- early school leaving/Year 12 incomplete
- limited post-school qualifications
- low family income/taxable income
- low work skills/long-term unemployment/unemployment

- criminal convictions/admissions to prisons
- disability/sickness support
- high dependency ratio (unemployed: unemployed).

Each indicator is assigned a weighting that reflects its relative importance in the principal component. This is gauged by the correlation between the indicator and the factor (first component). Analogous to Pearson's r , the squared factor loading is the percent of variance in an indicator explained by the factor.

The sum of weighted scores for each of NSW's 647 postcode areas enables the distribution of disadvantage to be represented in a number of ways, from the maps that enable quick comparisons to be made, to the listing of localities within bands of disadvantage, commencing with the top 40 ranking localities and continuing to completion on the project's website (*australiandisadvantage.org.au*).

In Table 2, Band 1 contains the most disadvantaged of the 40 top ranking localities and Band 6 the least disadvantaged localities. The striking thing about those listings is their stability over time, not quite rock-like but very stable indeed. The rank order correlation of the lists in NSW in 2004 and 2006 was +0.90. Notwithstanding the limited range of ten indicators used in 1999, the rank order of NSW localities then and in 2006 correlated +0.81.

Thirty years ago, using similar methods, many NSW locations identified then as highly disadvantaged remain prominent in today's calculations (Australian Government Social Welfare Commission, 1975; Australian Department of Social Security, 1976).

The character of the general disadvantage factor for NSW closely resembles that derived for the other jurisdictions. Together the two perspectives – disadvantage gauged by simultaneously taking into account performance on all of the indicators and concentrated disadvantage based on high rankings on six or more of the indicators – convey a picture of the damaging consequences of limited education, deficient labour market credentials, indifferent health and disabilities, low individual and family income, and engagement in crime. Localities with markedly high rankings on these and other forms of disadvantage are areas where confirmed child maltreatment is also likely to be high.

Table 2. NSW: 40 highest-ranking postcode areas on 'disadvantage' factor

Band	Post-code	Localities arranged alphabetically within each band	Estimated total population
Band 1	2469	Bonalbo, Beau Creek, Banyabba, Bingeebebra Creek, Boomooderie, Bottle Creek	4,503
	2839	Brewarrina, Bogan, Gongolgon, Talawanta, Weilmoringle	1,566
Band 1	2440	Kempsey, East Kempsey, South Kempsey, West Kempsey, Crescent Head, Aldavilla, Austral Eden, Bellbrook, Belmore River, Carrai, Comara, Corangula, Euroka, Frederickton, Hat Head, Kinchela, Millbanik, Pola Creek, Turners Flat, Yarravel	22,334
	2834	Lightning Ridge	3,245
	2369	Tingha, Stannifer, Old Mill	902
	2306	Windale	3,075
Band 2	2449	Bowraville, Argents Hill, Buckra Bendinni, Girralong, Kennaicle Creek, Killiekrankie	2,154
	2470	Casino, North Casino	13,233
	2371	Deepwater	1,203
	2879	Menindee	692
	2455	Urunga, Newry, Newry Island, Spicketts Creek, Wenonah Head	3,323
	2820	Wellington	6,913
Band 3	2831	Armatree, Byrock, Balladoran, Bileroy, Brenda, Bullagreen	929
	2471	Coraki, East Coraki	2,315
	2427	Harrington, Crowdy Head	1,633

Band	Post-code	Localities arranged alphabetically within each band	Estimated total population
Band 3	2448	Nambucca Heads	8,438
	2485	Tweed Heads	11,008
	2832	Walgett, Come By Chance, Angledool, Boorooma, Cryon, Cumborah	3,411
Band 4	2428	Forster	21,173
	2327	Kurri Kurri	6,965
	2263	Toukley	22,211
	2326	Weston	6,157
	2476	Woodenbong	813
	2836	Wilcannia, White Cliffs, Gemvil	1,150
Band 5	2409	Boggabilla	1,148
	2559	Claymore, Blairmount	4,798
	2807	Koorawatha	312
	2672	Lake Cargelligo	1,810
	2431	South West Rocks	4,402
	2372	Tenterfield	5,014
Band 6	2361	Ashford, Atholwood, Bonshaw, Limestone, Pindaroi	947
	2840	Bourke, Barrington, Enngonia, Fords Bridge, Gumbalie, Gunderbooka, Hungerford, Louth, Tilpa, Urisino, Wanaaring, Yantabulla	4,043
	2880	Broken Hill, Broken Hill West/North/South	21,391

Band	Post-code	Localities arranged alphabetically within each band	Estimated total population
Band 6	2443	Diamond Head, Camden Head, Bobs Creek, Coralville, Deauville, Dicks Head	8,290
	2466	Iluka, Woody Head, The Freshwater	1,884
	2360	Inverell	12,962
	2770	Mt Druitt	57,196
	2452	Sawtell	9,891
	2430	Taree, Taree South	29,701
	2502	Warrawong	11,826

Whatever other measures are necessary to combat the geographic concentration of the problems highlighted in this study, it is difficult to deny the centrality of limited education and its impact on the acquisition of economic and life skills, in the making and sustaining of localised disadvantage in Australia.

Do these findings really matter? Do the component weights and the statistical paraphernalia not available to Mayhew in the 1860s and the pioneers in this field really help to identify society's highly vulnerable neighbourhoods, areas that may not benefit to the same extent as others on a tide of rising prosperity? The present evidence of substantial differences between areas in their degree of cumulative disadvantage and the stability of those differences over time is persuasive. Another way of gauging the importance of the differences revealed by this approach is to make simple comparisons of the circumstances of areas identified as extremely disadvantaged and the remainder of their state or territory. To illustrate the difference, the 3% most disadvantaged locations – there are 69 across Australia – have been contrasted with the remaining 97% of places. If this framework appears too stringent I need to point out that, less than a decade ago, just the last three of 500 Sydney suburbs ranked in descending order of social prestige accounted for 30% of Sydney-based women

prisoners. The lowest-ranking 5% of suburbs provided more than four times their share of male prisoners (Vinson, 1998).

In the present study, in Western Australia the rate of prison admissions in the 3% most disadvantaged localities is 15 times that of the remainder of the State. Long-term unemployment is 5.5 times greater, disability and sickness support just under five times greater and the non-completion of high school or other training, 2.5 times greater. Confirmed child maltreatment data was not available in Western Australia but in the extreme 3% most disadvantaged areas of New South Wales it was 4.5 times greater, just under four times greater in South Australia and three times greater in Queensland. Long-term unemployment was another recurring feature of the extreme 3% most disadvantaged areas: the difference in rates ranged from 5.5 times in Western Australia and the ACT, to more than three times in South Australia, and approximately 2.5 times in Queensland and New South Wales. Apart from the marked difference in prison admission rates in Western Australia, the rate in New South Wales' 3% most disadvantaged areas was 3.5 times higher than in the remainder, the difference was threefold in Queensland and sevenfold in the ACT. These are remarkable disparities crying out for sustained, effective action.

Can anything really be done to reduce these differences? Can the fortunes of highly disadvantaged areas be turned around, affording life opportunities to those who live in them while reducing the social costs to others? By painstakingly linking information from diverse sources across six states and the ACT we are able to see forms of disadvantage in their social context and the way different strands of disadvantage inter-lock. Our examination of the correlations between them shows a high degree of interdependence so that progress in overcoming one limitation, say, unemployment, can be inhibited by related factors like limited funds, poor health, inadequate training or having a criminal record. This web-like structure of disadvantage restricts attempts to break free of it.

So, the task is undoubtedly formidable and therefore, before focusing upon the repair of social damage that already exists, as a society we should be looking to monitor changes in the wellbeing of localities and intercepting problems before they wreak maximum harm. Here are just a few examples of what is needed. We know that what are called 'place effects' – the net influence exerted by a locality on people's wellbeing after sub-

tracting individual and household disadvantage – are particularly strong during the early stages of life and later adolescence. Post-natal outreach services, parenting support programs and children’s diagnostic and treatment services should be strongly represented within highly disadvantaged neighbourhoods, including those in rural and remote areas. The same is true of adolescent health services.

If disadvantageous conditions are ‘bundled’, in the sense of being inter-correlated, then efforts must be directed to loosening systemic constraints on people’s life opportunities. If, as is commonly the case, unemployment and crime correlate with limited education and limited work skills, then the preventive pathways need to take heed of these interconnections. This is precisely what is happening in Mildura in north-western Victoria where the Rural City Local Government is committed to making its region the most liveable place in Australia within the next two decades. A series of task groups that combine local government, professional and community representatives are working backwards from manifest problems – like childhood accidents, crime and unemployment – to offer ‘up-stream’ opportunities to strengthen individuals’ and neighbourhoods’ capacities to avoid such problems. The policing of disadvantaged areas is being linked with the work of other social agencies in pursuit of improved community problem solving. Preventive work of this kind at the national, state and local government levels requires clear policies backed by an information and skills infrastructure, such as is being firmly established in Victoria but which barely exist elsewhere in our country.

Now the most difficult challenge: what can be done about areas in which disadvantage has become strongly entrenched? A first step is to learn from the characteristics that differentiate markedly disadvantaged from other areas. In the light of the data already presented an intervention plan would need to give serious consideration to:

- education and training/retraining
- work opportunities and placement (sometimes on a regional rather than strictly local basis)
- health promotion and treatment
- parenting skills
- ‘problem solving’ law enforcement

- developing local leadership capacities
- other specific needs of an area identified either by formal indicators or residents.

Is all this worth the candle – does it achieve anything? The kind of data adduced in the present study can be used to at least broadly monitor progress in areas that in recent times have been the focus of NSW Government sponsored ‘community strengthening’ projects generally lasting around three years. The news from three of the four localities it has been possible to study is both encouraging and cautionary. The project areas have generally seen crucial improvements in their disadvantage rank positions including progress in early life-stage wellbeing, but when the support program ceases there is a rebound to previous levels of disadvantage. Problems that have often been decades in the making cannot be reversed in a few short years. The governments of England and many other European countries know that, and in these countries, projects nearer to 10 years duration are the norm. The local findings caution against the view that an inadequate single ‘dose’ of assistance is better than no help at all. When the will of a long-disadvantaged community to deal with its problems is stirred and assistance is proffered, the let down occasioned by the premature withdrawal of help can leave people feeling more hopeless than before the process began. We need firm political and administrative commitments to sustaining community strengthening projects in a manageable number of highly disadvantaged communities in order to ‘turn around’ the life prospects of those who live in them.

The Role of the Social Fabric

The research has confirmed that there is another very important ingredient that can reinforce more tangible remedial measures. The social fabric of a disadvantaged neighbourhood can aid or hinder its recovery. In areas that have experienced sustained disadvantage, optimism about the prospects of improving the local situation can slump and the will to support neighbours or work cooperatively to improve things declines in the face of pressures to simply survive the day. In Newcastle in the mid-’70s, residents in the most disadvantaged suburbs were significantly more likely to exhibit fatalistic attitudes than residents in other parts of the city. A ‘whatever is going to happen will happen’ attitude prevailed (Vinson, Homel &

Bonney, 1976). There was also less social connection between residents and less involvement in local groups and organisations.

Human service professionals are convinced that such an environment is unhelpful. Speculation of this kind has been encouraged by the observation that some communities burdened by disadvantage appear more resilient than others in overcoming adversities. It has been frequently asserted but less frequently tangibly demonstrated that aspects of the social climate of an area can either dampen or exacerbate the effects of disadvantageous conditions, like unemployment, limited education and poor health. Some of the earliest sociologists sensed that the seat of this countervailing influence is located in the quality of the bonds between community members. Three qualities in particular: trust, reciprocity and common identity, gained early prominence in the literature (Durkheim, 1893; Jacobs, 1961).

Recently it has been possible to study the influence of social environment empirically because it has proved possible to cross-reference our indicator data with the findings of continuous health surveys undertaken by the Victorian authorities. Survey data gathered from 37,500 respondents over the period 2001–2005 has been aggregated and a threshold requirement set of at least 10 survey respondents within a postcode for it to be included in this phase of our study. This approach yielded a sample of 495 eligible postcode areas which were then divided into three sub-categories reflecting their degree of social cohesion. That division was based on responses to eight survey items whose relevance to the generic concept of *social cohesion* is supported in the literature (Australian Institute of Health and Welfare, 2003; Browning & Cagney, 2002; Buckner, 1988; Coleman, 1990; Cooley, 1906; Durkheim, 1893; Fallding, 1961; Putnam, 2000; Sampson, 1991; Sampson, 1997; Stürmer & Kampmeier, 2003; Tönnies, 1957). The eight survey items were as follows:

- i. Volunteering
- ii. Membership of local groups
- iii. Group action to improve community
- iv. Neighbours help in difficult times
- v. Feel safe walking in neighbourhood
- vi. Agree people can be trusted
- vii. Attend local community events
- viii. Feel valued by society.

Structure of the social cohesion variable

If the eight variables tap aspects of the same latent construct one would expect a reasonably high degree of inter-correlation or association between them. This was found to be the case. The association between six of the variables (volunteering, help from neighbours, belonging to groups, local action, safety and trusting others) is greater than with the remaining two variables (attendance at a community event and feeling valued by society). Nevertheless the extensive linkages between the variables suggest the existence of some underlying structure that is common to them.

To identify what the variables share in common we again take advantage of the Principal Components Analysis. The analysis resulted in the extraction of a major factor that accounted for 50.8% of the total variance of the eight variables. We are justified in treating the first component as a *social cohesion* factor that captures along a single dimension many aspects of cohesion previously reflected in eight separate item scores.

Next we calculated a single cohesion score for each of the 495 Victorian postcodes and divided them into high, medium and low categories using the ‘natural breaks’ method which identified three cohesion categories of approximately equal size:

Low cohesion	164 (33.1%) postcodes
Medium cohesion	176 (35.6%) postcodes
High cohesion	155 (31.3%) postcodes

Research strategy

The strategy for exploring whether an area’s location in one of these three cohesion categories affects the impact of disadvantageous social conditions turns on the fact that we know from the literature the established connections between many such conditions and associated variables. The relationships include circumstances like unemployment, limited work skills, early departure from schooling and low income, and associated states of affairs like low birth weight, criminal convictions, imprisonment, childhood accidents, psychiatric hospital admissions, and child maltreatment. There are 24 pairs of such variables within our present study. We have calculated the size of the correlation between each of the 24 pairs of variables across the 495 postcode areas for which we have a cohesion rating and that figure appears in the first column (coloured grey) of the

following table. The crucial question is whether the recalculation of the same correlations between, say, unemployment and imprisonment, or low family income and child maltreatment, *within* the three categories of social cohesion produces a consistent change in the strength of the connections. That is to say, does social cohesion in the way that we have defined it, operate as an intervening variable to constrain or ‘dampen down’ the ill-effects of disadvantageous social conditions?

Judged by the contrasting correlation of coefficients within the ‘low’ and ‘high’ cohesion categories (Table 3), *with a reduction in every instance* in the degree of association between the 24 pairs of variables, social cohesion does indeed exert a strong buffering effect. Overall, the size of the correlations within the high cohesion category was (at least) halved from that in the low category in 17 of the 24 pairs of variables considered.

The contrast of extreme categories is always more likely to reveal a consistent pattern than ‘in between’ categories. Nevertheless, the direction of ‘middle cohesion’ scores in Table 3 is generally consistent with the hypothesised buffering effect of social cohesion. On the research side, it is important to remember that we are dealing here with a construct which affords opportunities for further methodological refinement of the operational definition of ‘cohesion’. Those endeavours are proceeding.

The foregoing overall inferences are illustrated by the figures in the first row of Table 3. The generally accepted association between unemployment levels in an area and that area’s rate of imprisonment is reflected in the correlation coefficient of $+0.44$ across all of the 495 localities included in this part of our study. The size of that coefficient increased by half to $+0.67$ in the 164 areas with low levels of social cohesion but decreased by well over half to $+0.17$ in the 155 high cohesion areas. This latter finding suggests that social cohesion has a dampening effect on the influence of unemployment in this particular sphere. The 176 medium cohesion areas experienced a beneficial but less marked effect. The figures in the second row show a similar contrast between areas in the two extreme (high and low) cohesion categories. However, in this instance the association between unemployment and criminal convictions within the medium cohesion localities remained virtually the same as it was across the entire sample of 495 localities.

Table 3. Associations between antecedent and correlating variables within areas

	495 postcode areas with cohesion scores	Low social cohesion N=164	Medium social cohesion N=176	High social cohesion N=155
CRIME				
Unemployment/ imprisonment	.44	.67	.30	.17
Unemploy./crim. convictions	.49	.67	.48	.30
Early sch. leav./im- prisonmt	.42	.47	.16	.14
Low fam. income/ imprisonment	.48	.64	.17	.09
Yr 12 incomplete/ imprisonment	.16	.25	.09	.08
Low work skills/ imprisonment	.49	.42	.14	.19
Early sch. leav./con- victions	.48	.51	.66	.37
CHILD MALTREATMENT				
Unemploy./child mistreatment	.44	.63	.44	.26
Low fam. inc./child mistreatment	.36	.59	.42	.27
CHILDHOOD INJURIES				
Year 12 incomplete/ injuries	.05	.53	.04	.11
NO PRESCHOOL				
Low fam. inc./pre- school	.39	.56	.44	.17
Early sch. leaving/ preschool	.42	.57	.46	.17

	495 postcode areas with cohesion scores	Low social cohesion N=164	Medium social cohesion N=176	High social cohesion N=155
UNEMPLOYMENT				
Low work skills/ unemployment	.49	.55	.54	.39
Early sch. leaving/ unemployment	.42	.67	.62	.14
Early sch. leav./l-t unemployment	.56	.62	.61	.42
Low wk. skills/l-t unemployment	.34	.37	.41	.18
PSYCHIATRIC HOSPITAL ADMISSIONS				
Unemployment/ admissions	.30	.50	.35	.12
Early sch. leaving/ admissions	.47	.40	.59	.37
DOMESTIC VIOLENCE				
Disability/domestic violence	.30	.50	.52	.33
Unemployment/ domestic violence	.41	.44	.42	.30
LOW BIRTH-WEIGHT				
Unemployment/low weight	.34	.43	.30	.20
Early school leav- ing/low weight	.19	.46	.17	.11
Year 12 incomplete/ low weight	.13	.26	.18	.14
Low family income/ low weight	.10	.43	.18	.03

Social Policy Implications

As a professional research and teaching unit within a major university the Faculty of Education and Social Work's mission includes generating insights that can constructively influence social policy. It is, therefore, appropriate to ask whether exercises of the present kind make any impact? The findings of the present research have been promoted to federal and state politicians, their departments, umbrella organisations like ACOSS and NCOSS, community organisations, the general public and the media.

As is to be expected, the impact in some instances has been ephemeral. In others it has been unexpected: local governments have considered differential rating in the light of disadvantage scores; those scores have been used by tribunals concerned with the allocation of poker machines and liquor licences. Numerous submissions for reallocating resources within organisations or seeking external funding have incorporated the disadvantage data. A number of state governments have acknowledged the usefulness of the data in understanding the social challenges facing their administrations, but it is Victoria that has taken the geographic dimension of social disadvantage most seriously at the levels of both policy and practice. 'Strengthening community' projects are an important part of the *Fairer Victoria* policy and it has been acknowledged that *Dropping off the edge* is playing a key role in guiding the implementation of that policy.

The report was formally launched in the Australian Parliament in February 2007. All sides of politics have displayed interest in the findings and have noted the role of limited education in establishing and sustaining patterns of localised disadvantage. It will take time to learn the fate of recommendations like free pre-schooling for three year olds from disadvantaged backgrounds, incentives for experienced, able teachers to teach in disadvantaged schools and commonwealth investment in sustained work in disadvantaged areas. A more direct response has been the Opposition's commitment to establish a Social Exclusion Unit should it gain government, the findings of *Dropping off the edge* being cited as a significant part of the justification for creating such a unit (*Hansard*, August 16, 2007).

The effective implementation of the findings of this research will not simply be a matter of investing for short periods in a succession of disadvantaged areas. That has been the practice in Australia to this point with

relatively short-term benefits. It is time now to avoid playing with this issue and engage in sustained, thoroughly documented interventions – if necessary of limited number – in order to establish whether we can free people, especially children, trapped in webs of disadvantage. All the talk of the Australian ‘fair go’ and children developing in accordance with their endowments will remain just that until we redress the problem of some communities ‘falling off the edge’.

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