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Community Participation and Regional Crime

Carlos Carcach and Cathie Huntley

While it may appear intuitive that participation in community-oriented activities corresponds to lower rates of violent and property crime, this paper seeks to test the proposition with hard data.

Local data on community participation are not available in Australia in any systematic format, so this paper worked from local membership in Scouts Australia and in some State Emergency Services activities to examine crime rates against community participation levels. Using data for local government areas in the mainland eastern states, the study shows that:

- *crime rates are lower in local areas with high levels of participation in community-oriented activities; and*
- *a doubling in the rate of membership in community organisations has the potential to reduce violent crime by between one-fifth and one-third, and property crime by between one-twentieth and one-tenth.*

Increased participation in community organisations may prove distinctively beneficial in rural Australia. Out-migration has been identified as a major problem in rural centres. The findings from this study suggest that participation has the potential to overcome some of the negative impact that high population mobility has on local levels of crime.

Adam Graycar
Director

The social disorganisation model of crime emphasises the effects of a community's ability to realise the common values of its residents and maintain effective social controls on crime (Sampson & Groves 1989). Sampson (1995) identified the following three major dimensions of the social disorganisation model:

- a community's ability to supervise and control (teenage) group-level behaviour;
- the density of relational networks—communities with strong, dense and high-quality interpersonal networks have a greater capacity for fostering environments that constrain deviant behaviour compared to communities with weak, loose and low-quality networks (Bursik & Grasmick 1993; Glaeser, Sacerdote & Scheinkman 1996; Bellair 1997); and
- the rate of participation in voluntary associations and local organisations, as well as the stability and density of social institutions—low participation in local activities and weak community organisational structures affect a community's capacity to reduce local crime.

A number of factors mediate the relationship between these dimensions and local crime. Social cohesion among neighbours, combined with their willingness to intervene on behalf of the common good (or "collective efficacy"), has been linked to reductions in violence (Bursik & Grasmick 1993; Sampson, Raudenbush & Earls 1997). Crime is high in neighbourhoods with high levels of disorder and low levels of neighbourhood interaction and trust (Snell 2001). The distribution of disorder is related to factors such as level of poverty and degree of instability, which in turn disrupts the relational networks within a community.

Central to the social disorganisation perspective on crime are change and adaptability (Bursik & Grasmick 1993). Processes of economic change may have major effects on the social, environmental and physical characteristics of localities. Findings in Rephan (1999) indicate

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that major change in the structural characteristics of local economies impacts on residential mobility, manifested in commuting behaviour, migration and the presence of a transient population. Economic change also affects the social composition of local areas through its influence in labour market outcomes, family formation patterns, income, education, the ethnic mix of residents, age structure and demographic patterns. Research in Australia indicates that the impact of economic transformation on the residential and socioeconomic structure of local areas is in turn mediated by population size and distance from major service centres (Carcach 2001a).

The relationship between population size and local crime rates is not clear cut. In the United States, Laub (1983) reported that victimisation rates increase with population size, but only for total populations up to about 25,000. Osgood and Chambers (2000) found that population size affects (juvenile) crime rates only for populations of up to about 4,000 (juveniles). The latter authors suggest that the relationship between population size and crime may be spurious and that it reflects displacement of (juvenile) crime to larger areas with greater opportunities. This suggests the existence of location effects on crime. In Australia, Carcach (2000b, 2001a) found significant effects of population size and location on

crime rates of local government areas. The effects of size and relative location on crime were found to persist even after controlling for the effects of economic change and social disorganisation measures.

Social interaction is central to the social disorganisation perspective on local crime. Social interactions affect the local stock of trust, cohesion and resources for collective action (social capital) in the community. Participation in community activities and local organisations is one of the many ways residents contribute to the common good and the solution of local problems. People who feel attached to and believe in their community are more likely to be involved in community activities (Sampson 1999). Trust in the

Table 1: Variables and measurements, descriptive statistics

Key concepts	Measure	Mean	Standard deviation	Minimum	Maximum
Local crime					
Violent crime	Number of violent crimes (1998)	64	175	0	1,689
	Violent crime rate per 1,000 residents	2.7	5.6	0.0	44.9
Property crime	Number of property crimes (1998)	1,064	2,077	0	25,728
	Property crime rate per 1,000 residents	30.0	29.0	0.0	189.9
Economic change					
Size	Population (1996)	33,669	60,501	301	848,741
Agricultural orientation	Rurality (less than 20,000 residents and location quotient ^(a) for agriculture greater than 2.5)	0.47	0.50	0.00	1.00
Industrial change	Percentage decline in agriculture and mining (1986–96) ^(b)	4.5	7.7	0	52.2
Ability to maintain local population base	Male unemployment (as per cent of male labour force)	10.0	4.5	0.0	26.0
	Female unemployment (as per cent of female labour force)	8.4	3.4	0.0	22.0
Social structure					
Residential stability	Percentage living in same address in 1996 as in 1991	51.1	7.1	15.7	72.8
Indigenous population	Percentage of Indigenous residents	3.0	6.8	0.0	84.1
Local resources					
Concentrated affluence	Positive ICE index ^(c)	0.3	0.5	0.0	1.0
Concentrated poverty	Negative ICE index ^(c)	0.66	0.48	0.00	1.00
Informal control					
Ability to supervise youth	Ratio of 15–19 to 65 years and over	0.41	0.24	0.09	2.22
Family disruption	Percentage of families with children under 15 that are headed by a female	8.9	2.4	2.9	18.9
Participation in community organisations					
Participation in voluntary associations and local organisations	Members of Scouts Australia per 1,000 residents (adult and juvenile)	5.3	3.8	0.0	27.71

a. The location quotient (LQ) measures an industry's share of the total employment within a region relative to its share within a larger area, and as such they are used as indicators of concentration of economic activity (Carcach & Muscat forthcoming). An LQ of 2.5 ensures that only localities with a strong concentration of activity in the primary sector are included in the study.

b. Percentage decline in the LQ for agriculture and mining between 1986 and 1996.

c. The Index of Concentration at the Extremes (ICE) is given by the following formula:

$$[(\text{number of affluent families} - \text{number of poor families}) / \text{total number of families}]$$

"Affluent" refers to families with an income above AS\$1,000 a week and "poor" refers to families with an income below AS\$300 a week. The ICE index can take values between -1 (all families are poor) and 1 (all families are affluent), with 0 indicating a 50–50 split between poor and affluent families in the LGA (Morenoff, Sampson & Raudenbush 2001).

Source: Data derived from the Regional Crime Database, mainland eastern states, 1994–98, held at the Australian Institute of Criminology.

community needs to be present in order to drive such participation (Baum et al. 1999). There is empirical evidence that high rates of organisational participation by local residents contribute to reductions in local crime rates (Simcha-Fagan & Schwartz 1986).

The Relationship between Community Participation and Crime

Previous studies in this series have demonstrated that local variation in crime is associated with community variation in structural factors such as economic change, residential stability, social stability and (quantity and quality of) social interactions (Carcach 2000a, 2000b, 2001a).

The present study extends this research by assessing the nature and direction of the relationship between levels of participation in community-oriented activities and local crime. This involves testing three hypotheses:

- high (low) levels of participation are associated with increases (reductions) in local crime;
- community participation mediates the effects of economic change on local crime; and
- community participation mediates the effects of residential stability and social homogeneity on local crime.

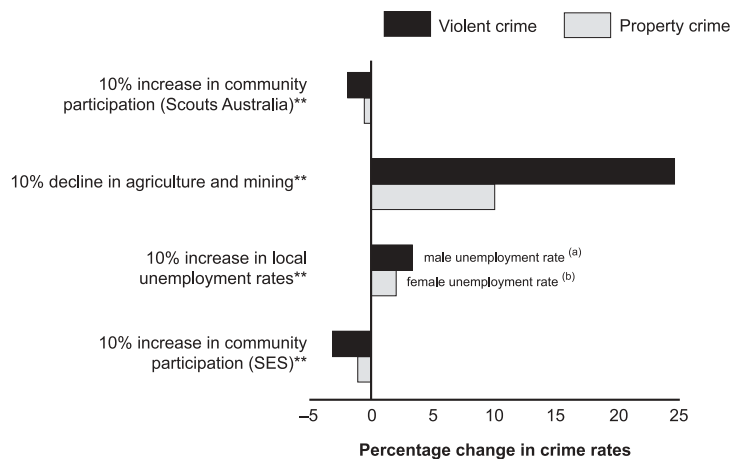
Data and Measures of Variables

Local government areas (LGAs) in the eastern Australian states are the units of analysis for this study. The data consist of measurements on the following types of local area characteristics:

- rates of violent and property crime;
- rates of participation in a community-oriented activity; and
- measures of structural characteristics of areas.

Data on the LGAs' crime rates were either obtained directly from published crime statistics (New South Wales Bureau of Crime Statistics and Research 1998) or derived from postcode counts of recorded crime (Victoria Police 1999; Queensland Police Service 1999; South Australia Police 1999).¹ The crime rates used in this study were based on average counts of crime over the period from 1994 to 1998, so they roughly correspond to

Figure 1: Percentage changes in local crime



** Significant at the one per cent level.

- The rate of male unemployment was not associated with the incidence of property offences.
- The rate of female unemployment was not associated with the incidence of violent offences.

Source: Estimates derived from a regression model based on data from the Regional Crime Database, mainland eastern states, 1994–98, held at the Australian Institute of Criminology.

average crime rates for the year 1996. The relationships that may hold between economic change, social disorganisation and local crime are unlikely to experience dramatic changes over relatively short periods of time.

Local data on participation in community organisations are not readily available in Australia. The Australian Bureau of Statistics has conducted national voluntary work surveys in 1995 and 2000 (Australian Bureau of Statistics 2001) but has not released data at the local level. The present study measures participation in community service-oriented activities from the number of members of Scouts Australia per 1,000 LGA residents. The head offices of Scouts Australia in each of the mainland eastern states provided membership statistics. The data include both adult and juvenile members.

Data on structural characteristics of LGAs were derived from 1996 census statistics (PMP Software 1998). These included measures of residential stability, family disruption, Indigenous population, income inequality, economic structure and change, and local levels of unemployment.

Table 1 contains the main descriptive statistics for the measures used in this study.

Method

The technique known as negative binomial regression was used for data analysis (see Osgood 2000). Separate models were fitted to violent and property crime rates for the LGAs of the eastern Australian mainland states. In each of these models the dependent variable was (the natural logarithm of) the local count of violent or property crime. The main independent variable was the rate of participation in community-oriented activity (that is, Scouts Australia). The analysis controlled for the effects of measures of economic change and structural differentiation factors on local crime.

Hypothesis 1: Effects of Community Participation on Crime

The first hypothesis addressed the relationship between community participation and crime, net of the effects of decline in agriculture, unemployment, residential stability, family disruption, concentrated poverty and demographic composition.

A 10 per cent increase in participation in a community-oriented activity (that is, Scouts Australia) induces significant declines of 1.9 per cent and 0.5 per cent in the incidence of violent and property crime respectively (Figure 1). This finding gives support to Hypothesis 1.

Hypothesis 2: Community Participation and the Effects of Economic Change on Local Crime

Hypothesis 2 asks whether participation in community-oriented activities mediates the relationship between economic change and local crime (Figure 2).

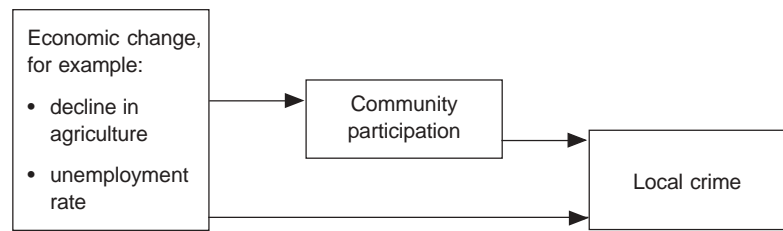
A 10 per cent decline in agriculture was associated with increases of 24 per cent and 10 per cent, respectively, in the incidence of violent and property offences (Figure 1). After controlling for the effect of the structural variables listed in Table 1, variation in manufacturing and service industries did not affect local crime rates.

Changes to the activity base of local economies make a major impact on employment opportunities, and ultimately in population change. Population decline affects the establishment and maintenance of relational networks, therefore modifying the structure of local social interactions, which results in changes to local levels of crime (Sampson & Groves 1989; Elliot et al. 1996; Sampson, Raudenbush & Earls 1997).

Violent offences were sensitive to variations in the male unemployment rate, whereas female unemployment was linked with property offences. A 10 per cent increase the male unemployment rate was associated with a 3.3 per cent increase in the incidence of violent crime, whereas a 10 per cent increase in the female unemployment rate resulted in a 2 per cent increase in property offences (Figure 1).

These results indicate that regional crime rates are affected by changes in local economies and fluctuations in employment

Figure 2: Conceptual model for Hypothesis 2



opportunities, independent of the effects of community participation. This confirms the findings in Carcach (2001a, 2001c) which show that economic change has an independent effect on local crime.

Hypothesis 3: Effects of Residential Stability and Socioeconomic Factors on Crime

Hypothesis 3 asks whether participation in community-oriented activities mediates the relationship between economic change, social structure and local crime (Figure 3).

Residential Stability

A high level of participation in a community organisation tends to mediate the effects of high residential mobility on local rates of both violent and property crime. One possible explanation for this finding is that localities that are residentially stable, which also tend to have low crime rates (Carcach 2000a, 2000b, 2001b), not only tend to record high levels of participation in the type of community-oriented activity being considered in this study, but also tend to be economically stable.²

Family Structure

Family disruption has been identified as a major factor underlying local crime rates (Sampson & Groves 1989; Bursik & Grasmick 1993; Sampson, Raudenbush & Earls 1997; Snell 2001). A 10 per cent increase in

female-headed families with children under 15 years of age was associated with 16 per cent and 12 per cent increases in the incidence of violent and property crime.

Youth-to-Elderly Ratio

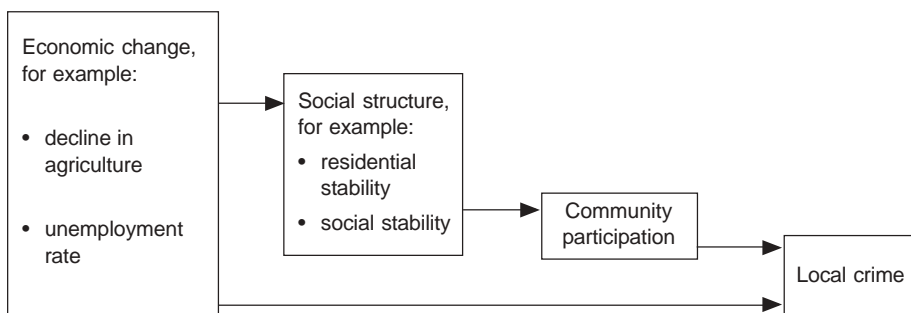
This study used the percentage decline in the youth-to-elderly ratio between 1991 and 1996 as an indicator of change in the localities' ability to provide for social control (Morenoff, Sampson & Raudenbush 2001). A decline in the ratio means less competition for the use of public space and may be associated with an increase in local capacity to exercise informal control over the behaviour of young people. Consequently, it is expected that a declining youth-to-elderly ratio would be associated with declines in local crime rates.

A decline in the youth-to-elderly ratio did not have any effect on the local rate of violent crime, but was related to a decline in property crime rates. However, the magnitude of such effects depended upon whether the local government area was classified as having concentrated poverty or not (refer to note c in Table 1).

In rural areas classified as having concentrated affluence (that is, the ICE index was greater than 0), a one per cent decline in the youth-to-elderly ratio was associated with a 10 per cent decline in the local rate of property crime. This finding was consistent with expectations and gave support to the hypothesis of a positive relationship between a community's capacity to provide for social control and its (property) crime rate (Morenoff, Sampson & Raudenbush 2001).

A different picture emerged in local areas classified as having concentrated poverty (that is, the ICE index was below 0). In these areas a one per cent decline in the youth-to-elderly ratio was associated with a

Figure 3: Conceptual model for Hypothesis 3



30 per cent increase in the local rate of property crime. These findings suggest that concentrated poverty weakens local capacity to provide for social control, a finding that is consistent with the social disorganisation model (Osgood & Chambers 2000).

Community resources play an important role in the development of informal social control (Sampson, Morenoff & Earls 1999).

Indigenous Population

Some towns, in particular rural areas, may have relatively significant numbers of Indigenous residents who rank poorly in terms of most socioeconomic indicators (Australian Bureau of Statistics & Australian Institute of Health and Welfare 2001). Geographic concentration of Indigenous people has been identified as a major contributor to regional variation in violent crime (Carcach 1999; Weatherburn 2001).

The findings here suggest that concentration of Indigenous residents does not have an effect on local property crime, but that in rural LGAs it may have a relatively strong effect on the incidence of violent crime. In this type of locality an additional one per cent of Indigenous residents was associated with a three per cent increase in the expected number of violent crimes.

Summary

These findings indicate that even after considering the effects of basic economic and social structural characteristics of communities, the impact of community participation on crime rates remains statistically and substantively significant. On the other hand, the factors related to providing informal social control (such as family structure and the youth-to-elderly ratio) continue to have an effect on local crime which is not mediated by community participation.

Validating the Findings

These findings might be considered as insufficient proof of the effects of participation in community-oriented activities because of the type of measure used in the study. As mentioned earlier, data on measures of participation for local areas are not readily available in Australia.

Data were also sought on membership of community service organisations such as the State Emergency Services (SES), but such data could only be obtained for New South Wales. Given the nature of activities performed by SES members, it was thought that SES membership could provide a more robust measure of participation compared to data on membership of Scouts Australia. The model for results discussed in previous sections was fitted to data for LGAs in New South Wales, but using SES membership per 1,000 residents to measure participation in community-oriented activities.

As shown by the data in Figure 1, a 10 per cent increase in SES membership in New South Wales was associated with declines of three per cent and one per cent in the expected number of violent and property crimes respectively. These effects are similar to those for membership of Scouts Australia, if not stronger, which reinforces the findings regarding the relationship between participation and community-oriented activities and local crime.

Conclusion and Policy Implications

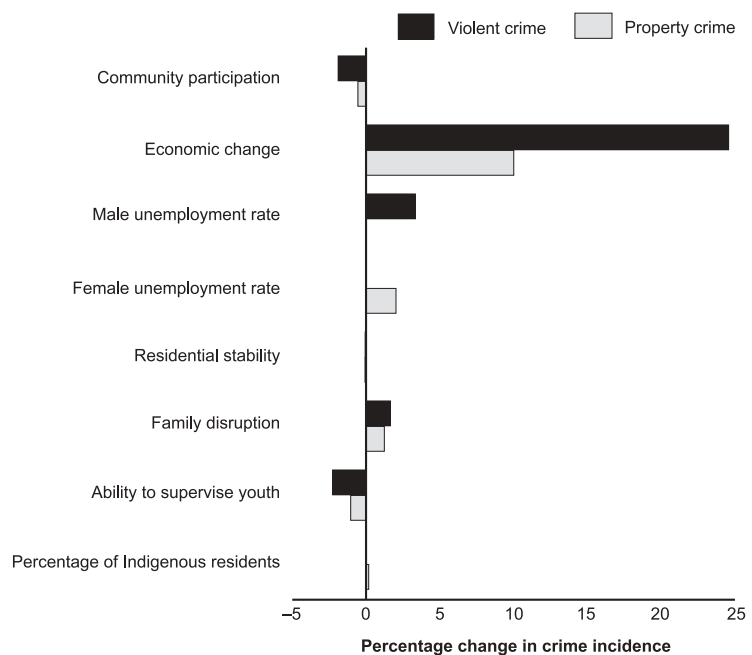
The findings in this paper indicate that local rates of participation in community-oriented activities or organisations play a role in

explaining regional variation in crime. Net of the effects of economic change and social structure, participation in a voluntary association like Scouts Australia (or the State Emergency Service) still has a statistically and substantively significant effect on local levels of crime.

Participation in local organisations leads to increased opportunities for social interaction among locals, which in turn enhances the residents' ability to work together in the solution of local problems, realise common values, provide for informal social control to reduce local crime, and increase the community's ability to obtain public goods (and services) such as improved levels of public safety.

Community-oriented organisations help in implementing strategies to improve support and opportunities for youth. Such organisations are useful in strengthening the community adults' capacity to support youth, and in increasing the number and quality of developmental activities for youth. Community-oriented (youth-centred) organisations promote multiple supportive relationships between youth, adults and peers, and provide youth with meaningful opportunities for involvement and membership, as well as activities that are challenging and engaging (Connell 1999).

Figure 4: Percentage change in local crime due to a 10 per cent increase in selected variables



These findings have implications for the development of local initiatives aimed at reducing crime. Communities that succeed in engaging members in localised efforts for crime prevention and control develop a sense of achievement and effectiveness. As communities are more successful in tackling local problems, residents become more cohesive and trustful of each other. This increases the intensity and quality of their social contacts which in turn leads to increases in the local stock of social capital.

Increased participation in community organisations may prove beneficial in rural Australia. Out-migration has been identified as a major problem in rural centres. By enhancing the intensity and quality of social contacts among residents, participation may help in overcoming the negative impact of population mobility on local levels of crime.

Notes

- 1 Postcode-level data were converted to LGA-level data using concordance rules obtained from the Australian Bureau of Statistics.
- 2 The Pearson correlation between the rate of participation and the measure of residential stability was 11.6 per cent. Furthermore, the correlations of residential stability with declines in agriculture, male unemployment and female unemployment were -18.6 per cent, -15.4 per cent and -12.6 per cent respectively. All these correlation coefficients were statistically significant at the one per cent level.

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