

Homicides and socioeconomic influences: a report from Argentina for the period 1971-1997

Homicídios e influências socioeconômicas: relatório da Argentina no período 1971-1997

Jorge Folino¹; María Inés Urrutia²; Mariana Marchioni³; Marta Crivos⁴; Laura Tevez⁵; Antonio Avalos⁶; Graciela Pezzotti⁷

Summary

Homicide rates in Argentina were really high between 1971 and 1977, probably because of the political conflicts occurring at that time. These rates declined at the end of the 1970's and at the beginning of the 1980's. Then, from the middle 1980's on, there was a progressive increase in both homicide rates and the percentage of accused individuals under the age of 21. This article argues that this increase was due to the influence of an unbalanced situation between certain aspects of regional development and the increase in relative deprivation, and to other facilitating elements such as easier access to drugs. In this study, the most significant and homogeneous correlation was detected among independent variables such as gross domestic product (GDP), Gini's coefficient, unemployment rate and the dependent variable of the percentage of murderers under the age of 21.

Uniterms

homicide; juvenile; economy; unemployment

Resumo

As taxas de homicídio na Argentina foram realmente altas no período de 1971 a 1977, provavelmente devido a conflitos políticos ocorridos naquela época. Essas taxas declinaram no final dos anos 1970 e início dos anos 1980. Mas da metade da década de 1980 em diante, houve um aumento progressivo nas taxas de homicídio e na porcentagem de

indivíduos acusados menores de 21 anos. Este artigo demonstra que esse aumento ocorreu devido à influência do desequilíbrio entre certos aspectos do desenvolvimento regional e o aumento da privação relativa, e outros elementos facilitadores como acesso mais fácil a drogas. Neste estudo, a correlação mais significativa e homogênea foi detectada entre variáveis independentes tais como produto interno bruto, coeficiente de Gini, taxa de desemprego e variável dependente de porcentagem de homicidas menores de 21 anos.

Unitermos

homicídio; juvenil; economia; desemprego

INTRODUCTION

Homicide behaviour varies in frequency and quality with time and social environment. If such variations could be depicted and associated factors identified, it might be possible to detect conditions facilitating homicide behaviour and, thus, work on prevention.

Based on this, a project was designed with the purpose of analysing variations in homicide behaviour over a long period and considering the influence of certain social and economic factors. This research was carried out all over Argentina and especially in two of the most important provinces in the country: Córdoba and Buenos Aires.

MATERIALS AND METHODS

Studied population

In order to estimate the annual rate of homicides, we considered gross data taken from statistics of the Dirección Nacional del Registro Nacional de Reincidencia y Estadística Criminal del Ministerio de Justicia de la Nación (that is, the registration office of crime and recidivism depending on the

1) Psychiatry professor at Universidad Nacional de La Plata.

2) Mathematics professor at Universidad Nacional de La Plata.

3) Master in Economics; lecturer at Universidad Nacional de La Plata.

4) Cultural Anthropology professor at Universidad Nacional de La Plata.

5) Cultural anthropologist; lecturer at Universidad Nacional de La Plata.

6) Psychiatrist; lecturer at Universidad Nacional de Córdoba.

7) Psychologist of the judicial power, province of Buenos Aires.

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Mailing address

Jorge O. Folino • 506 Nro. 2457 • B1897 GJG – Manuel B. Gonnet, Argentina • Telefax: (221) 4843020 • e-mail: folino@atlas.med.unlp.edu.ar

national ministry of justice) for the period 1971 to 1997. This period was chosen because it comprises different economic and political stages in Argentina. Besides, during this period the same national criminal register system was used, facilitating data collection in a uniform manner (after that period, the system was modified. The new period should be a project for future research).

Homicide rate and percentage of accused according to age

Outstanding differences in homicide rates were found in a previous survey (Folino *et al.*, 2000) from one period to another, as estimated per 100,000 inhabitants in Argentina and in the provinces of Córdoba and Buenos Aires in particular (Figure 1) (Table 1).

Three well determined periods were represented: the highest homicide rates in the 1970's – especially between 1973 and 1977; low rates in the early 1980's; and again, high rates at the end of the 1990's. When rate evolution is compared in the three locations, certain parallelism is noticed in the variations,

Table 1 – Population growth in the studied regions

Region	Population	
	1971	1997
Argentina	23,364,431	32,615,528
Buenos Aires	8,774,529	13,713,752
Córdoba	2,060,065	13,713,752

which may suggest that the same factors might have influenced homicide behaviour simultaneously in different regions. The first period of high homicide rates coincided with a domestic struggle between the military force and guerrilla groups which affected the whole country. During the 1990's, there was an economic process which also affected the whole country and which will be discussed in detail later on.

When assessing the percentage of the accused under the age of 21, the result was impressive, confirming increasing implications of youth in homicides (Figure 2).

During the 1990's, trends coincide in the three groups that there is an increase in the percentage of young people involved, especially in the province of Buenos Aires. This relative parallelism may also suggest that the same factors might have influenced homicide behaviour, but this time with greater impact in the province of Buenos Aires, a fact that will be reviewed under the title *Discussion*.

Socioeconomic factors

The influence of social and economic factors is assessed considering the following indicators: unemployment rate, domestic gross product (DGP) and Gini's coefficient.

Definitions

Indicators are defined as follows (O'Kean, 1994):

- *unemployment rate* is the ratio between unemployed people and active people. It is considered the main indicator of social discomfort;

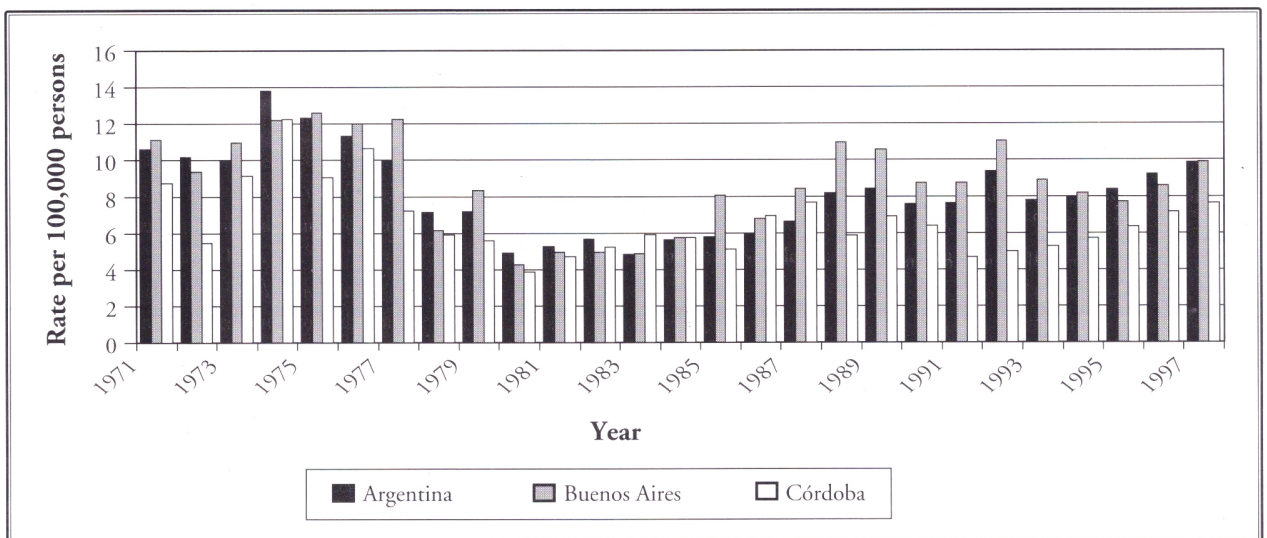


Figure 1 – Annual homicide rate per 100,000 inhabitants

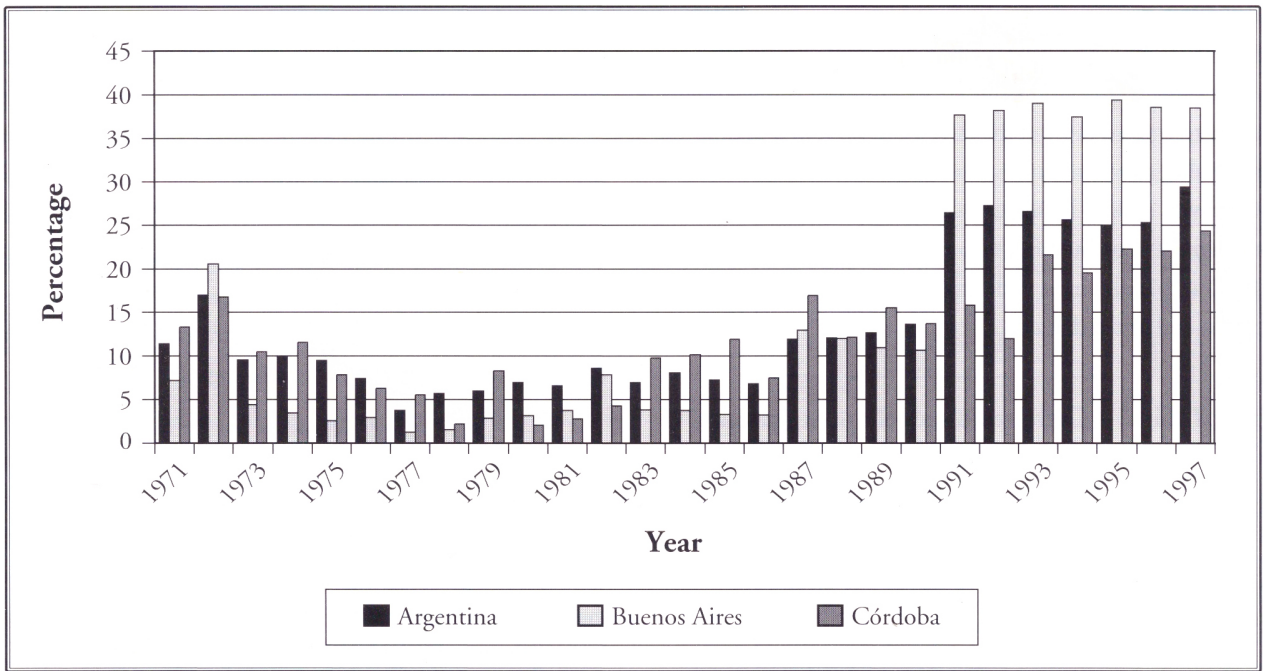


Figure 2 – Percentage of the accused of homicide under the age of 21 (the percentage of persons under 21 years of age was estimated without considering those cases whose sex or age were not reported)

- *DGP* is the total amount of production of every production sector in a given region. It is considered an important indicator of wealth and economic development of a region or country;
- *Gini's coefficient* is a well-known and widely used measure developed by Conrado Gini, which indicates the degree of inequality in the distribution of resources: the greater the value, the greater the inequality in the distribution. The range of theoretical values goes from 0, for the absence of wealth concentration, to 1, for total concentration of resources. Estimations are drawn from the *per capita* income in a family, which is the addition of the incomes of every member of the family divided by the number of members. Gross data were obtained from the Permanent Home Survey processed by the Instituto Nacional de Estadística y Censos (1999) twice a year over 25 urban centres representing 70% of urban population in the country and 98% of the population of cities with more than 100,000 inhabitants.

Assumptions

Factors selected are within an *integrated model* of violence. It would be extremely ingenuous to assume that there is a direct cause ratio between the studied variables and homicide

rates; none of the variables may be considered as absolutely determinant because homicides, as any other human aggressive behaviour, are phenomena due to multiple dimensional causes. When working with an integrated model, such variables are considered indicators of interacting factors conditioning the eco-cultural context, the socializing style, motivation and the search for objectives among other elements conforming the model.

The model diagram based on the theoretical conceptual frame of Marshall Segall (Goldstein, Segall, 1983) is shown in **Figure 3**.

RESULTS

The correlation among homicide annual rate per 100,000 inhabitants and domestic gross product showed highly significant negative correlation in Córdoba, while it was not so in the province of Buenos Aires or in Argentina as a whole (**Tables 2, 3 and 4**). Homicide annual rate did not correlate with the unemployment rate.

Gini's coefficient could be estimated for most of the years belonging to the period 1980-1998 in the provinces of Buenos Aires and Córdoba (**Figure 4**) (Gasparini *et al.*, 1999).

Resource distribution in Buenos Aires, as shown by this coefficient, became more and more unequal between 1980

and 1982; it improved by 1985 and became gradually worse in 1987, 1988 and 1989, coinciding with hyperinflation. Afterwards, distribution started to improve, though values never resembled those of the early 1980's. From that time on, inequality grew constantly up to the end of 1998. In Córdoba, there was a slow increase in inequality which reached its maximum value in 1989, then the rate lowered slightly until 1992 and finally increased again, reaching the highest value by the end of the decade.

Table 2 – Correlation model for Argentina

Argentina	Homicide rate	% < 21 years old	DGP
% < 21 years old	0.203		
DGP	- 0.332 NS	0.705**	
Unemployment rate	0.405 NS	0.806**	0.849**

NS = not significant; *significant, $p < 0.05$; **highly significant, $p < 0.01$; DGP = domestic gross product.

Table 3 – Correlation model for the province of Buenos Aires

Prov. Buenos Aires	Homicide rate	% < 21 years old	DGP	Gini
% < 21 years old	0.408 NS			
DGP	0.334 NS	0.82**		
Gini	0.628*	0.521*	0.353 NS	
Unemployment rate	0.275 NS	0.748**	0.838**	0.644**

NS = not significant; *significant, $p < 0.05$; **highly significant, $p < 0.01$; DGP = domestic gross product.

Table 4 – Correlation model for the province of Córdoba

Prov. of Córdoba	Homicide rate	% < 21 years old	DGP	Gini
% < 21 years old	0.054 NS			
DGP	- 0.403**	0.539**		
Gini	0.222 NS	0.634**	0.431*	
Unemployment rate	0.303 NS	0.79**	0.695**	0.597**

NS = not significant; *significant, $p < 0.05$; **highly significant, $p < 0.01$; DGP = domestic gross product.

A significant positive correlation is seen in the correlation model between Gini's coefficient and the homicide annual rate in the province of Buenos Aires.

As opposed to the findings in relation to homicide rates, the percentage of homicide accused under the age of 21 shows highly significant correlations with DGP, Gini's coefficient and unemployment rate. This finding appears homogeneous in all the provinces and all over Argentina, except for the case of the correlation of Gini's quotient in the province of Buenos Aires, which was found merely significant.

DISCUSSION

It has been theorized that high homicide rates in Argentina during the 1970's were associated with the political turbulence that took place in the country at that time (Folino *et al.*, 2000). In fact, the number of homicides reported to the authorities was lower than the actual number of homicides committed because the deaths of the so-called *missing* were not officially registered (National Committee for Missing People, 1984). This political war was responsible for the highest homicide rate in the three periods studied.

As it is found in similar studies from other developing countries (Neapolitan, 1997), when the discussion is centered on a democratic period of government, independent variables such as the DGP and the unemployment rate do not homogeneously show any significant correlation (either negative or positive) with homicide rate, as it might have been expected from a simplistic interpretation of the model. Results showed highly significant negative correlation with the homicide rate only for the province of Córdoba. The assumption that Argentine resources or unemployment influenced homicidal behaviour in a direct, general or detectable way cannot be supported by the data included in this study.

On the contrary, the three variables considered – unemployment rate, DGP and Gini's coefficient – showed a general correlation with the number of young people involved, which suggests a certain influence on this age group.

Unemployment might have greater impact on youth, thus stimulating a violent way of attaining objectives and, therefore, greater involvement in criminal behaviour. If this is true, the unemployment rate would have been higher in those groups where the percentage of the accused under 21 years of age is greater and this, in turn, would have been more noticeable in the 1990's, when differences in percentage of under aged accused were wider when comparing Córdoba and Buenos Aires.

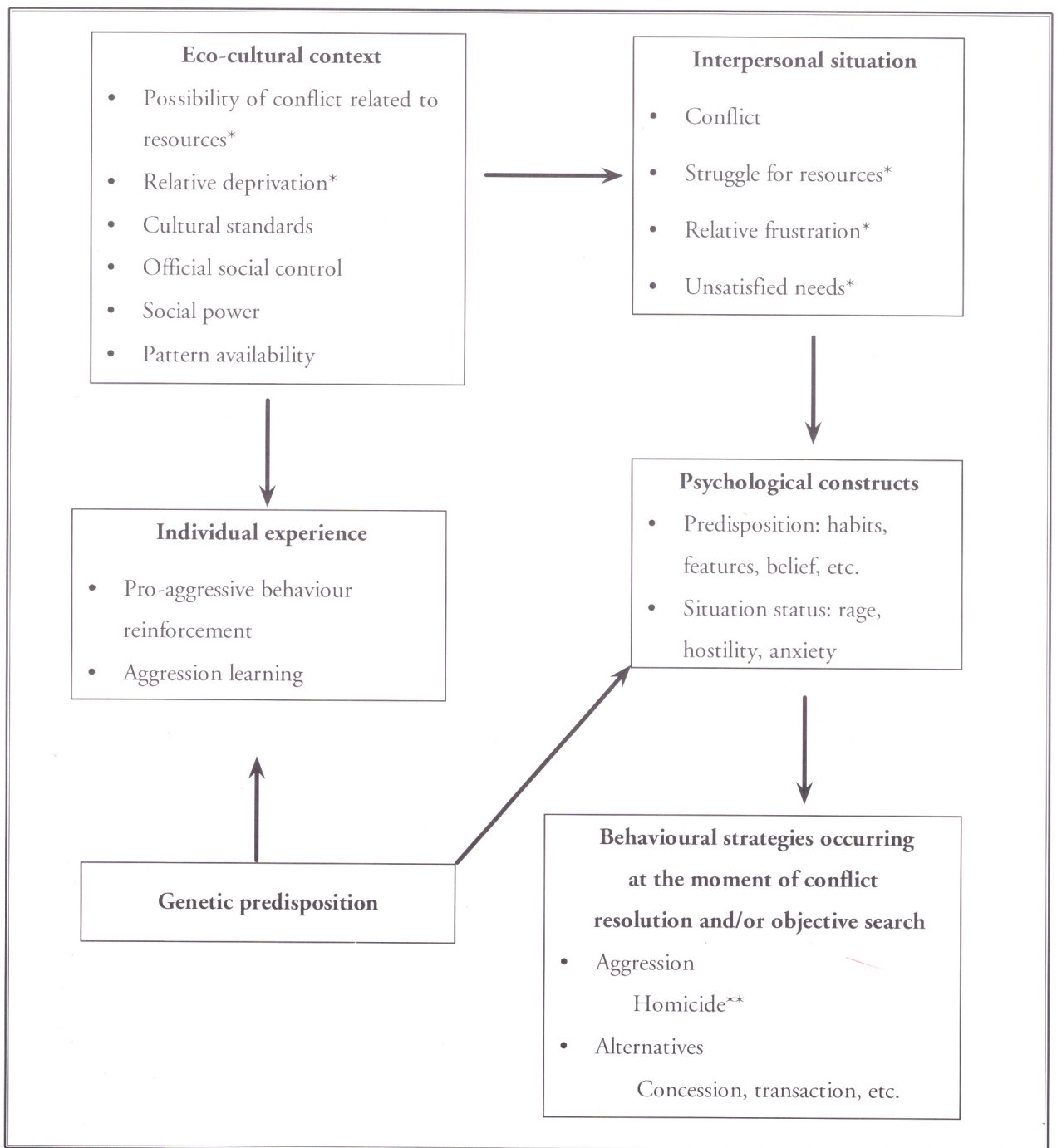


Figure 3 – Integrated operative model of aggression (homicide)

*Factors related to the independent variables studied; **dependent variable (modified from Goldstein & Segall, 1983).

As it can be seen in **Figure 5**, the comparison of the unemployment rates shows this is true up to 1996, when both the unemployment rate and the percentage of under aged accused were higher in the province of Buenos Aires. Nevertheless, indicators are crossed in 1996, suggesting that the relationship among factors is not so simple or direct, though it is still significant. Consequently, the interaction of

other factors should be taken into account, as for instance, some cultural patterns allowing violence. This factor may be influencing the higher percentages of under aged accused in the province of Buenos Aires during the 1990's, as the province of Buenos Aires is more subjected to cultural changes than Córdoba, whose cultural patterns are more traditional, being this a factor of relative protection.

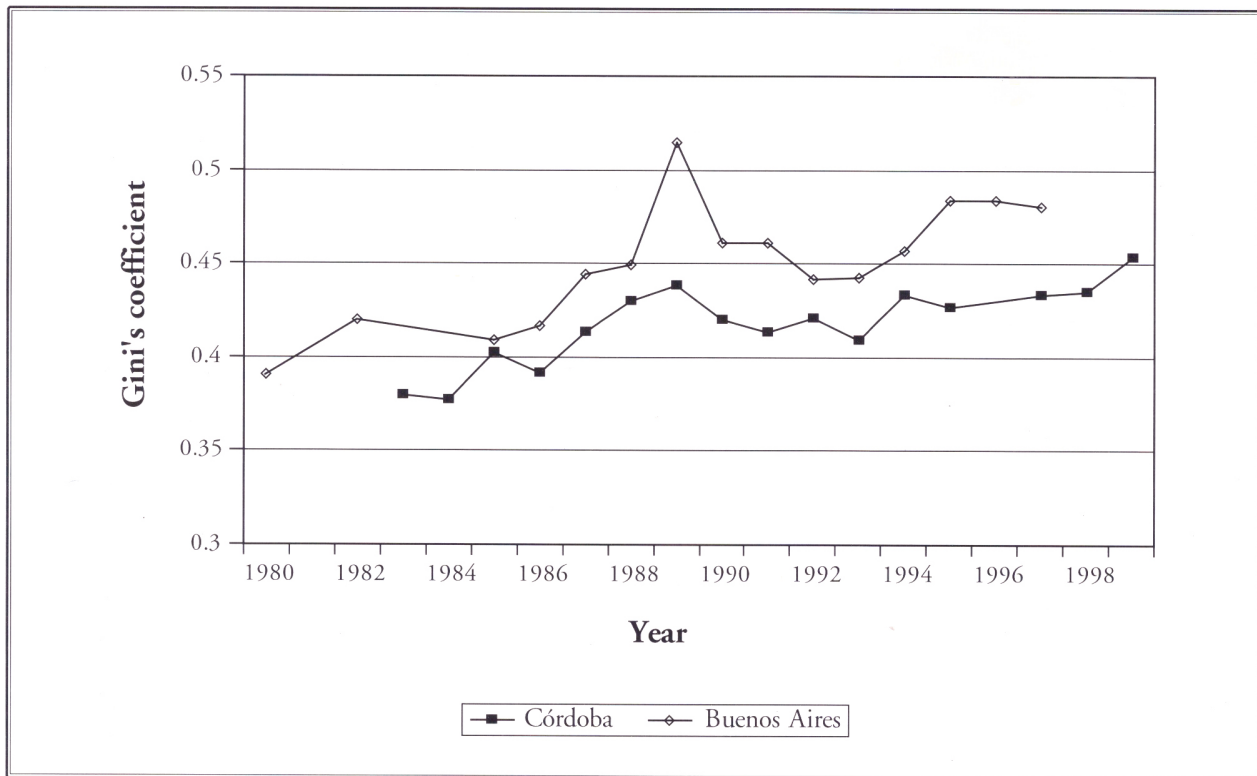


Figure 4 – Gini's coefficient evolution, Córdoba province and Great Buenos Aires

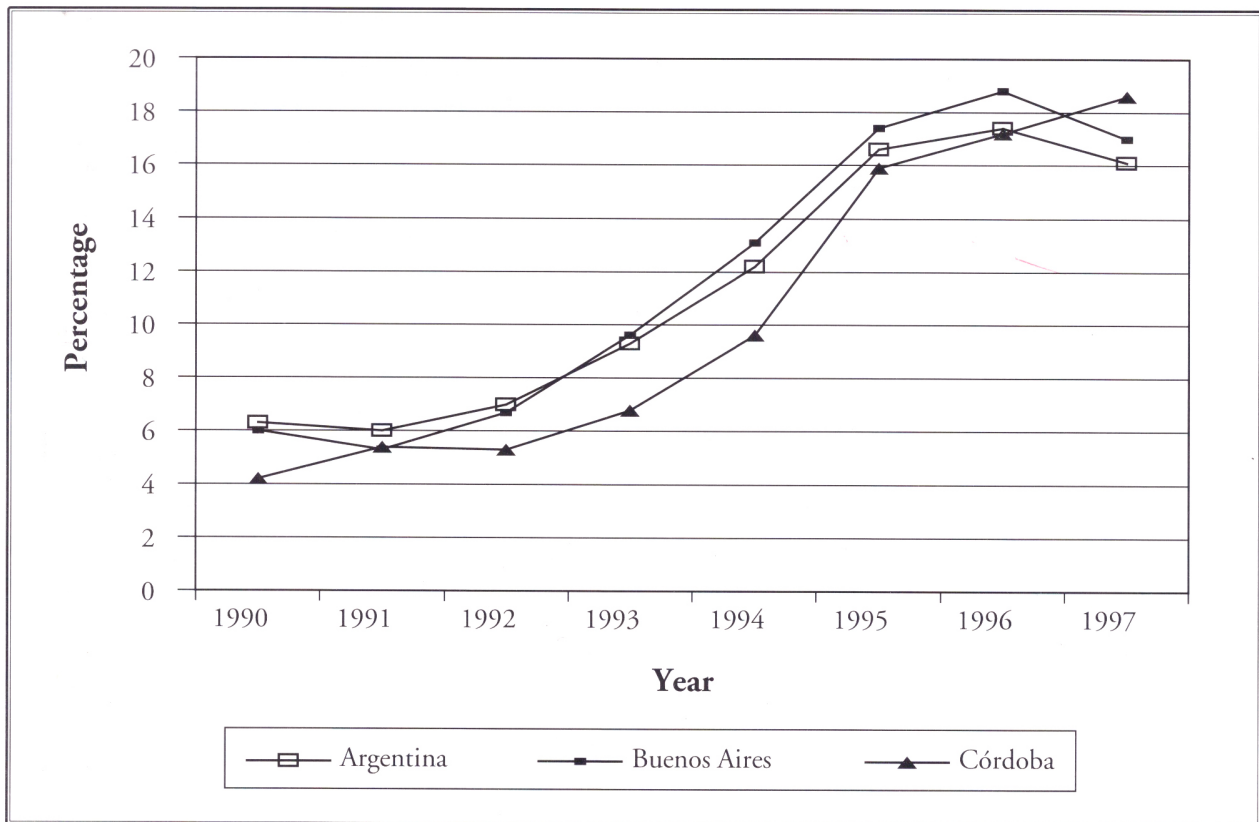


Figure 5 – Unemployment rate

In spite of the existence of one-dimension associations, as shown by the correlations matrix, we feel inclined to think that the progressive increase in the number of the under aged involved in homicides is influenced by the unbalance between a combination of facilitating factors, on the one hand, and aggression inhibiting factors, on the other hand.

This unbalanced condition can be clearly observed in Argentina – especially in the two provinces we are dealing with and for the last fifteen years – through a variety of factors as follows:

- a) regional resources increased, as indicated by DGP. During the last three decades of the twentieth century, the common citizen attained some benefit and certain power due to the general progress provided by modernization. At the same time, there was an important increase in goods supply (electronic products, clothing, communications, entertainment) together with a persistent advertising campaign stimulating consumption. A vivid example of this social power development can be drawn from figures representing the amount of vehicles and road toll collection in some of the main roads of the province of Buenos Aires. The number of vehicles using those roads increased from 7,757,843 in 1994 to 9,373,227 in 1998; toll collection increased from \$37,537,362 to \$61,949,300, respectively (Provincial Office of Statistics, 1999);
- b) at the same time, the undesired effect of the sustained increase in inequality could be felt from the early 1980's on. This factor in connection with the situation described in item *a* results in a relative deprivation. A combination of these two factors may have stimulated some people to act out in a criminal way, as they were unable to get material objects by any other means. It may also have promoted lack of confidence and respect for the system;
- c) during this period, another violence facilitating factor became notorious in our country: drug consumption increased and guns became more accessible. Although it is very difficult to measure these phenomena in our country, both facts are widely accepted as true. As regards weapons, the total number registered in Argentina raised from 400,000 in

1993 to 1,938,462 in 1999 (RENAR, 2000); and it is widely accepted that many other are brought into the country illegally. As regards drugs, there were no periodical surveys on substance abuse that could show a variation of prevalence in the general population over a given period; it was not until 1999 that a study on the prevalence of substance abuse was carried out, with the following results for a population of 16 to 64 years old: life prevalence for social drugs consumption (alcohol and tobacco), 80.36%; for illegal drug consumption, 10.09%; for medicines illegal consumption, 4.36% (Miguez, 2000). Though it is impossible to compare consumption over different periods in the whole country, there is some illustrative information on the subject. This information does not come from representative populations, so generalization must be avoided, but an example can be drawn, showing the trend towards an increase of local problems due to substance abuse, in turn leading to an increase in the demand for hospital assistance and of forensic cases with diagnosis of disturbances due to substance abuse*^ψ;

- d) interaction of the mentioned unbalanced conditions with personality features is also considered important, although personality variations in time are difficult to measure. Among others, egotistical and hedonistic characteristics are outstanding. In these cases action prevails and immediate satisfaction is sought by any means, even by using violence; the other person is underestimated and even their own safety is disregarded. The influence of these features was confirmed in women condemned in the province of Buenos Aires (Folino, 1987) and also in Latin America, as reported in the ACTIVA project from the Pan-American Health Organization (1999). This survey comprised many Latin-American cities sharing certain characteristics with Argentina – socialization derived from the Spanish culture, socioeconomic structures typical from developing countries. Findings show significant association between aggression and violent attitudes – aggression to non-relatives and males, youth – and frequent alcohol consumption (Orpinas, 1999).

**Reencuentro*, a regional hospital specialized in drug and alcohol abuse which deals with ambulatory patients from a population of about 800,000 inhabitants belonging to the city of La Plata and its surroundings, had an important increase in assistance demands. From 1989 to 1995 the average new monthly cases was nine; it increased to 17 in 1996, 25 in 1997, 32 in 1998, 36 in 1999 and 37 in 2000. The average out-patients seeking advice increased from 995 in 1996 to 5,027 in 2000 (source: specialized hospital in drug and alcohol abuse *Reencuentro*).

^ψIn insanity evaluations performed by the first author of this paper at the forensic service of the judicial department of La Plata, there was an important increase in cases with main diagnosis of *disturbance due to substance abuse*. While in 1989 and 1990 only ten and eight cases, respectively, had that diagnosis, the amount increased up to 28 cases in 1991 and the trend continued as follows: 1992, 31; 1993, 29; 1994, 34, 1995, 31; 1996, 33; 1997, 48; 1998, 38.

Summarizing, during the last fifteen years and on the frame of greater social power caused by modernization, other powerful factors also acted facilitating violence, among them the lack of equity in resource distribution and relative deprivation, an easier access to guns and drugs and the growth of egotistical personal attitudes and hedonistic cultural values. It is said that these factors influenced the increase in violent acts, as reflected by homicide, particularly among young people.

CONCLUSIONS

From a descriptive point of view, high homicide rates were detected in the 1970's, reaching a maximum of 13.8 per 100,000 inhabitants in 1974. These rates lowered at the end of the 1970's and at the beginning of the 1980's. Then, from the middle 1980's on, there was a progressive increase both in homicide rates and in the percentage of the accused under the age of 21.

From an analytical point of view, as seen within the frame of an integrated model of violence promotion, this survey suggests that the factors listed below have had an influence on the increase of homicide rates, especially when youth is involved.

- The political disturbances in the 1970's;
- the unbalanced situation between certain aspects of regional development and the increase in relative deprivation and

other facilitating elements such as access to drugs and guns, and egotistical and hedonistic cultural patterns taking place in the last fifteen years.

LIMITATIONS

It is admitted that this research only allows to analyse certain variables from the multidimensional model implemented and that it is far from involving all the possible explanations that may be found in democratic times, as, for instance, gangs struggles or honour conflict duels influence, facts that will be subject for further research.

On the other hand, the impact of recent economic changes in Argentina, such as the default and the devaluation of the national currency, should be assessed in a future research.

Finally – and unfortunately, there were some aspects of the discussion which could not be properly supported because of the limitations in local statistics availability.

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