Social capital, violence and public interventions

Abstract:

The allegedly endogenous relationship between social capital and violence has been rarely modeled in previous studies and, when so, it has been found not statistically significant. We find otherwise estimating simultaneous econometric models with data from Colombia in what constitutes a natural experiment of social capital formation as a deliberate strategy to crack on violence. Interpersonal trust is the single most important determinant to reduce victimization, while victimization levels cut back interpersonal trust and increasingly so only after some threshold is surpassed. Perceptions in the community of an effective public presence both reduce victimization and increase interpersonal trust, but the magnitude of these effects is rather small. Other public interventions (civic campaigns and improving the performance of public institutions) in crime-ridden communities also have a positive impact on victimization and interpersonal trust levels.

JEL Classification: Z13, C30, D74, J18
Key Words: Social Capital, Violence, Public Institutions, Three-Stage Least Squares, Latin America, Colombia.

Word Count: 9,581

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‘ “[A]ll these gentlemen of the Netherlands have so many rules and ceremonies for getting drunk, that I am repelled as much by them as by their sheer excess”. But these rites were not laid for the benefit (or exasperation) of the occasional visitor; they were the mysteries of the burghers’ social religion’

Simon Schama, *The Embarrassment of the Riches,* p. 180, London: Harper Perennial. Edition 2004.

1. The role of social capital in explaining violence

The failure of the Beckarian model of rational optimization behavior to account for the complexity of violence has shifted the focus from individuals to communities. An “emotional” violence (Buvinic et al 1999) is believed to react to neuro(logical)-cognitive problems, personality features, affective links and belonging to dismantled families and be ignited by stressors such as alcohol or drug abuse (Llorente and Chaux 2004). Either emotional or rational, violence operates within a context. Sampson and Raudenbush (1999) have argued that the interplay of community inter-actions constitutes the critical context. They refer to “collective efficacy” as the degree of control that the community exerts over its members. Whenever collective efficacy is strong and working towards antisocial goals, violence springs and prevails. Explanations on what factors turn interactions antisocial are manifold. A popular argument is the ‘broken-windows’ theory. Wilson & Kelling (1982); Skogan (1990) propose that both physical and social disarray, from abandoned buildings, graffiti’s, dark streets, street brawls, to the presence of homeless and prostitutes in the streets, all favor the unfolding of violence and crime in such neighborhoods. For example, the absence of telephones was reported a critical factor in generating a sense of isolation and helplessness in violent communities in Jamaica (Moser and Holland 1997). Others, similarly, talk of “environmental criminology”, indicating that there are hot zones towards which crime converges and concentrates (Bottoms 1996; Tolan, Gorman-Smith & Henry 2003). The theory of ‘social learning’ also emphasizes the community’s role in the persistence of violence. In as much as violence permeates daily life, individuals are no longer sensible to its consequences and may grow to believe in violence as a legitimate way to solve conflicts (Bandura 1973, Liddel et al 1994; Guerra et al 2003).

Numerous studies have linked violence and social capital formation, both at community and national levels, and through quantitative and qualitative approaches. See appendix 1 for a comprehensive review of selected studies. Rarely, however, these studies have attempted to establish and measure their causality. Lederman et al (2002) is one exemption. They report that when the index of trust rises by 1%, homicide rates for a set of thirty nine countries should expectedly decline by 1.21%. However, the authors themselves cast doubts on the reliability of their empirical analysis and on the true specification governing both variables. [1] Interestingly, though, they argue that their results may reflect compositional effects accruing from different types of social capital that cancel out each other. The existence of two types of social capitals, one good, the other perverse, is not a new argument. Fukuyama (1995, 2000) argues that social capital may generate negative by-products such as hatred and inbred bureaucracies. This is possible even when costs of monitoring, negotiating, litigating and enforcing formal agreements within organizations are reduced. In the case of violence, Glaeser et al (1996) and Rubio (1997) argue that stronger social interactions allow an easier exchange of information and know-how among criminals, which reduces the costs of crime. Well-known is Olson (1982)'s argument that one of the features associated with higher levels of social capital, namely, associationism, may institutionalize rent-seeking. Rubio (1997) argues that drug cartels, guerrillas and gangs generate a perverse social bonding that corrupts whole communities by providing youths with antisocial role models and by training them in the use of arms and violence. Participating in crime develops a sense of identity and connections among its perpetrators. Underlying this perverse capital is the formation of a "group-specific" social capital, which differs from "community-wide" good capital. Similarly, Lederman et al (2002) refer to a bonding and trust-generating mechanism among participants that requires necessarily the exclusion of others, thus separating those able and willing to embrace the group from those other members unwilling to do so. Initiation rituals or assignments in violent groups such as the Mafia, the Ku Klux Klan or the *Mara Salvatrucha* respond to this logic. They also show that size is not a problem for group-specific relations provided that an excluding social capital is sufficiently enforced.

Notwithstanding that social capital may be indeed perverse, is there a role for public involvement in its formation? Coleman (2000) himself, a champion of the public nature of social capital, points out that the solution to underprovided social capital does not necessarily –certainly not exclusively- implies public provision. Inasmuch as family and community structures are not missing, dysfunctional or perverse, strengthening them may well be a promising way of fostering social capital without public intervention being necessary. More skeptical views on the role of public provision argue that social capital is best formed (both at the community and national levels) by mechanisms outside the reach of the public sector given that social capital is a by-product of religion (Weber 1905), tradition (Ostrom 1990), or history (Fukuyama 2000). These views stress that there are no reasons for which governments should be expected to know best how to build social capital and which levels are optimal. Decades of the Communist Party strategy of undermining horizontal associations in favor of a vertical discipline between State, party and individuals is believed to have depleted the post-Soviet society of trust and civil society (Fukuyama 2000). In extreme cases, the deliberate intervention of a government has led to dramatic social capital destruction and perverse social capital formation. This is the case of government-led massacres in Rwanda or the traumatic forced migrations into the rural parts of Cambodia during the Pol-Pot era (Coletta and Cullen, 2003)[2].

This paper explores more optimistic experiences supporting a public role in the fight against violence and crime centered on social capital formation. Successful public interventions regarding social capital formation have taken place in contexts where interpersonal trust is so low to start with that the mere presence of public institutions provides significant returns. People cannot associate, volunteer, vote or take care of one another if they fear for their lives when venturing into the community. Conceptually at least, any policy that has as purpose the (widely-defined) protection of people and communities, be it the protection of people's public civil and legal rights, or the provision of adequate food and shelter, public health, collective security or basic education may contribute to the formation of productive social capital formation (Heffron 2000). If one believes that this is the case, social capital gains a policy quality that goes beyond enabling conditions for civil society or community groups to operate efficiently (that is, reduce transaction costs). If this hypothesis is true, the formation of social capital may

reduce violence and fears of victimization. Trust and cooperation within the community may then turn effective, leading to a virtuous circle. The paper tests this hypothesis of, first, a simultaneous virtuous relation between social capital formation and violence reduction, and, second, the relevance of public interventions in turning such a relation truly virtuous. Section 2 analyzes the experience of Cali, Colombia, a violence-battered society that resorted to a deliberate strategy of public formation of social capital to combat critical levels of violence. Section 3 explains an estimating and testing strategy for the nature of social capital and violence and the role of public interventions. Section 6 reports the results, while section 5 concludes with policy recommendations.

2. Social Capital Strategies to Crack on Violence: the Case of Cali.

Violence and capital formation in Colombia

Colombia ranks atop the notorious classification of violence incidence in the world (Morrison & Biehl, 2000). Its dynamics (that is, changes over time in homicides, kidnappings, car thefts, bank robberies and even petty crimes) were of such a magnitude and followed such a geographical concentration that rational behavior explanations could not take stock of them. Instead, Gaviria (2001) talks of multiple equilibria where a high-level crime state (around Medellín and Cali) co-exists with a low-crime equilibrium in other parts of the country (basically in the Atlantic Coast of the country, in departments such as Atlántico, Bolivar, Córdoba and Sucre; see Vélez & Banguero, 2001). Dynamics towards a high-level crime equilibrium are set in motion after a sufficiently strong thrust. Drug cartels may have played that role in the escalation of violence by expanding the incidence of violence to local crime directly and by congesting the judicial system.[3] Rubio (1996) describes that direct impact from drug cartels unequivocally as 'perverse' social capital. Local criminals in Colombia benefited from the cocaine cartels expertise in international crime operations, learning how to buy arms in international black markets, how to launder illegal money and how to identify 'connections' inside law enforcement agencies. Extensive military training by guerrilla groups to Medellin youngsters contributed to the emergence of criminal gangs in that city (Salazar 1994). Drug traffickers become role models for a broad sector of the population, their actions and

attitudes imitated (Salazar and Jaramillo 1992). As crime became part of life, youngsters were predisposed toward crime solidifying thus a culture of violence. Camacho and Guzman (1990), Salazar (1994), Salazar and Jaramillo (1992) all provide a wealth of casual evidence suggesting that the increase of violence since the 1980s caused a change in the perception of violence as a legitimate way to solve conflicts and to achieve economic prosperity.

Colombia is also of particular interest because of the central role played by social capital formation. Here, Cali constitutes a pioneering experience in the innovative and deliberate use of social capital formation for violence prevention purposes. Prior to Bogotá and Medellin, Cali initially designed a strategy of citizen security based on social capital formation within communities. It was designed to attack what Colletta and Cullin (2000) have described as weak societal cohesion increasing the risk of social disorganization, fragmentation and exclusion, potentially manifesting itself in violent conflict. During the Guerrero Administration (1992-94) peaceful coexistence was put at the center of the security agenda. A comprehensive action plan to reduce and prevent crime and violence (known as DESEPAZ) was articulated around four major strategic areas of action (Guerrero & Concha-Eastman 2001): diagnostics of violence trends and composition; law enforcement and justice; social development; and social cohesion and citizen empowerment. DESEPAZ had a wide and ambitious scope. Social development initiatives included employment and micro-enterprise programs, training workshops, and promotion of primary education among low-income neighborhoods. Some 28,000 low income families were helped to build their own house with all basic needs covered. Social cohesion and empowerment of citizens included activities to stimulate participation of citizens and civil society organizations through multiple initiatives that aimed at fostering peaceful coexistence. Those initiatives consisted of workshops, family meetings or festivals, among others. Greater and regular coordination with representatives of the Police, justice system, forensic medicine, and human rights advocates was actively sought. City security councils were created and presided over by the Mayor and attended by all the heads of the different law enforcement agencies and community leaders in Cali. The development of the police was set as a priority of the municipality that would be trained in human rights and other educational programs. The

improvement of the judicial system was targeted to reduce the levels of impunity in Cali. The municipal government designed innovative strategies that included the creation of conciliation centers, legal offices, an information system connecting the police and the judiciary, a special unit to investigate murders, and *casas de justicia* (houses of justice). These *casas* are low-cost multi agency centers that provide integrated and rapid services of formal and informal justice to the community. Although most frequent cases refer to family conflicts and issues related to judicial and penal processes, existing evaluations on their management (Urrego & Esguerra, 2005) report success in expanding the coverage of justice system to marginalized communities and faster response to conflict resolution. They have contributed as well to the mobilization of communities and their participation in the diagnosis and resolution of conflicts.

Encouraging results in the incidence of crime did not take long to appear. Two years after the launch of DESEPLAN, Cali crime rates declined from its peak of 124 homicides per 100,000 inhabitants in 1994 to 88 in 1998. That was the first interruption of an unrelenting increase in violence since 1983. However, in 1999 triple digit crime rates resumed, only to be curbed down again in 2001 to mid-Eighties levels. Crime rates have been also declining in the rest of the country although, as in Cali, unsteadily.

Cali, a natural experiment

The creation of four judicial districts makes Cali a special case. These districts were bequeathed with different sets of institutions. As such, the configuration of judicial districts in Cali conforms something close to a natural experiment. *Casas de justicia* were established in two of the four designated districts, districts 1 and 3, while are still not operating in the other two (2 and 4).[4] That may bear consequences on the expected efficacy of public institutions in both preventing violence and forming social capital. Interestingly, Table 1 below shows that there are statistically significant differences in terms of socioeconomic characteristics, public presence and social capital between these two types of districts.

[Table 1 about here]

Information used to construct Table 1 proceeds from a survey collected by the Instituto Cisalva at the Universidad del Valle, Cali.[5] The survey constitutes a valuable instrument to explore quantitatively relations of violence and social capital. [6] It collects information on 1,202 households in Cali during 2005. The survey is conceived to provide information to evaluate security and coexistence programs implemented by the Cali municipality. As a result, it collects information on victimization of several categories, from low-key neighbor disputes or unpaid alimonies to kidnapping and homicides. It also includes beatings, injuries, sexual abuse, threats, property damage, police abuse, and domestic violence. The survey also enquires about trust, perceptions on the helpfulness of neighbors and other community members and participation in community activities. Perceptions on security, peaceful coexistence, and the presence and perceived performance of public services are also reported. The survey records reactions and attitudes to non-civic acts, domestic and non-domestic violent episodes. Critically, the survey enquires about the presence and operations of public institutions as well as public programs such as mimes, houses of justice, information dissemination activities or workshops. The perceived presence and performance of the police in ensuring peaceful coexistence and safety is also collected. In addition, the survey captures perceptions on changes over time regarding crime, security or domestic violence, although the reference period typically spans only for six months to a year. Socioeconomic, demographic and geographic data permit to cross social capital, crime, public interventions and perceptions with household features. Unfortunately, the demographic composition of the household is not explored nor other variables are reported that would help gain knowledge on resource allocation and behavioral patterns within the household. Table 1 provides a detailed definition of key variables from the survey used in the empirical analysis.

3. The Estimating Model

The empirical strategy consists of testing whether or not a simultaneous relation between violence and social capital is accepted. Two well-known econometric techniques, linear regression with instrumental variables (or Two Stage Least Squares, 2SLS) and the Three-Stage Least Squares (3SLS), allow for the estimation of potential simultaneous relations of two variables. Facing an endogenous relation between two

variables and correlations between their error terms, the 3SLS technique is preferred over the 2SLS (and OLS). In such cases, 3SLS estimates are unbiased, consistent and (asymptotically) efficient (Kmenta, 1986). In both cases, nevertheless, the challenge remains to find good instruments for such variables. In this study, instrumental variables must be strongly associated with social capital without influencing the probability of an individual being victimized. A number of variables are checked for their validity as instruments using common tests such as that of excluded variables, the Hansen J test for over-identification of instruments and the C-test for the exogeneity of grouped instruments.[7] Tests will also check for heteroskedasticity (the Pagan-Hall test), and if found, a generalized method of moments will be applied to 2SLS estimations. That solution has been shown to produce robust estimates of instrumental regression under heteroskasticity conditions (Baum et al 2002). Finally, a Hausman test on the validity of alternative specifications will determine the preferred specification.

Both the 2SLS and the 3SLS techniques firstly set a system of structural equations for victimization (V) and social capital, (SC), which is proxied in this paper by interpersonal trust, against all other independent variables, "X", "Z" and "I":

$$V = F (SC, X, Z) \qquad (1)$$

$$SC = F (V, X, Z, I) \qquad (2)$$

where 'X' refers to socioeconomic, demographic and geographic characteristics of the community. This set contains the proportion of individuals in a given community with certain levels of education, incomes and socioeconomic strata (categorized in ascending order of income from 1 to 6). See Table 1 for a description of variables. The set also captures the heterogeneity of such socioeconomic conditions within each community. It includes the gender composition of the community and the residence in each of four districts of Cali. Interestingly, two districts have stronger public presence (including security programs and *casas de justicia*) while the other have a rather scarce public presence.

'Z' refers to a set of perceptions and attitudes regarding other individuals and organizations in the community. It also contains the participation of individuals in

community organizations. The set captures the degree to which individuals peacefully resolve conflicts in the community. The presence of public institutions is captured with variables that account for several aspects of this presence, from the existence of institutions to their reported performance and even the degree of exposure to civic messages and to activities promoting peaceful coexistence. "I" refers to a set of instruments for interpersonal trust, which includes years of residence in the community, being born in Cali, participation in community organizations and the probability of seeking neighbors' help in case of domestic problems. Other potential instruments were turned down on the grounds of non-orthogonality with the error term (and therefore, having a correlation with the victimization variables; see Table 3).

3SLS estimates a two reduced-equation system in which both dependent variables (V and SC) are regressed on all independent variables:

$$V = F(X, Z, I) \qquad (3)$$

$$SC = F(X, Z, I) \qquad (4)$$

The estimation of these reduced equations (3) and (4) adjusts the original distribution of V and SC, obtaining corrected distributions for such variables, $\hat{V}, \hat{SC}$ as well as a full-information matrix of variance and covariance for the error terms of the V and SC equations. The newly estimated endogenous variables and error variance and covariance matrix are used in the third and final step of the procedure to estimate a corrected simultaneous system for $\hat{V}$ and $\hat{SC}$:

$$\hat{V} = F(\hat{SC}, X, Z) \qquad (5)$$

$$\hat{SC} = F(\hat{V}, X, Z, I) \qquad (6)$$

The 2SLS, instead, estimates (1) and (2) and then an alternative equation (5)' as:

$$V = F(\hat{SC}, X, Z) \qquad (5)'$$

4. Results

The preferred specification

Table 2 reports the results for the formation of social capital and victimization using OLS, 2SLS and 3SLS specifications. Table 3 reports the results from the tests on the adequacy of selected instruments. The partial R^2 of the four instruments of interpersonal trust exceeds 10% and their P-value is 0 (a safe indication of their relevance as reported in Baum et al 2003). The Hansen J statistic implies that the null hypothesis of over-identified instruments is accepted (p-value=.11), confirming that these instruments are valid. Tests on the exogeneity of these instruments are reported for pairs of variables (other combinations not reported here were checked and passed the exogeneity condition). Table 3 reports that another instrument, the frequency of meetings with other community families, did not pass the test of exogeneity – having hardly passed the test of overidentification. The Pagan-Hall tests show that heteroskedasticity cannot be rejected in the case of 2SLS, for which, a Generalized Method of Moments estimation is conducted. It is that corrected specification that is compared with a 3SLS model. The Hausman test (see Table 2) concludes that 3SLS estimation is the preferred option. The test rejects the null hypothesis that there is no systematic difference in the coefficients of the two estimators. In other words, 3SLS provides the efficient and consistent estimates with respect to the consistent but inefficient 2SLS estimates.

[Table 2 about here]

[Table 3 about here]

Determinants of Victimization

Estimates show that not only the simultaneous relation between interpersonal trust and victimization is significant and positive (rather than a perverse one) but also that its magnitude is substantive. In fact, Table 4 reports that the elasticity of the interpersonal trust index is the largest among the estimated elasticities. An increase of 1% in the interpersonal trust index will lead to a decrease of 4.8% in the index of victimization. This implies that an average increase of 17% in the index of interpersonal trust is associated with a reduction of one victimization episode a year. In other words, there is a strong case for strengthening interpersonal trust as a means to combat victimization. Having tested for the victimization and interpersonal trust relation, this section also

reports the effects on victimization accruing from socioeconomic characteristics, environmental conditions, dominant perceptions and attitudes and public presence in the community. Unsurprisingly, Table 4 shows that the higher the socioeconomic stratum, the proportion of youths (aged between 16-29) and the presence of an environment characterized by physical and social disarray, the higher the rates of victimization should be expected. The fact that wealthier strata and community disarray both lead to higher victimization does not necessarily contradict the previous result In fact, the victimization index includes different types of offenses, from property offenses –more closely related to higher income levels- to homicides –more frequent in marginalized communities. What it is somewhat surprising, however, is that a higher variance of the "broken windows" phenomenon in the community, that is, a more heterogeneous environment, is associated with a reduction of victimization rates. Whether this is a result of a composition of effects based on the specific communities of Cali requires further investigation. The degrees of peaceful resolution of personal conflicts and exposure to civic messages within communities are reported as determinants of higher victimization (the former significantly, the latter insignificantly). These results do not necessarily imply that victimization fears appear more virulent where communities are more peaceful but - as indicated by studies on the formation of perverse capital- where there is a specific group whose members view themselves not as a part of the mainstream. A substantive proportion of trouble youths in an otherwise community of peaceful individuals matches that description.[8] In addition, civic campaigns were targeted to most violent districts in Cali, so the positive sign associated with this variable may suggest some degree of endogeneity.

Interestingly, higher levels of education have an additional impact on lower victimization rates not explained by socioeconomic strata, even when the degree of variance in educational achievement increases in a community. This confirms that education, even when heterogeneously distributed in a community, is critical to prevent violence (see Lochner 2004 for a recent review of supporting evidence). The proportion of trouble youths does not have a significant impact on its own, probably the result of other variables -- presumably, broken windows -- capturing that relation. Furthermore, the more widespread the perception of an effective presence of public institutions is, the

lower the victimization rates are expected. This result seems in line with the fact that a better perception on the performance of the police in the community is associated with a lower probability of victimization. Finally, communities in District 1 are also associated with higher victimization rates even when controlling for other determinants[9].

Determinants of Social Capital

Regarding the hypothesis on the relevance of public presence in the formation of social capital, Tables 2 and 4 confirm that the more widespread is the perception of institutional presence in the community, the stronger are the levels of interpersonal trust in the community. This effect is statistically significant but its magnitude is certainly limited, as indicated by its elasticity (see Table 4). A 10% improvement in that perception leads to an increase in interpersonal trust by 1%. Besides, the evaluation of performance of police and *casas de justicia* with respect to other public institutions is negatively associated with interpersonal trust, being this relation significant in the case of police performance but not so for *casas de justicia.* This result may indicate some degree of selection bias (police presence becomes more effective or is so perceived in more violent areas with lower levels of trust to start with) or other factors capture their effect on trust. When trust levels are low, as in the case of the most violent areas in Cali, it may be the mere presence of these institutions what makes a difference. Also, the effect of their performance may be already captured by victimization rates. That is, what people care in the community is whether victimization is perceived to decline rather than the quality of a particular public service on its own. Importantly, the level of victimization has a negative impact on trust but it is not significant, while its square is weakly significant and negative. This indicates that is not *any* level of victimization that dents community trust levels. Violence only affects trust after some critical threshold is surpassed and when so happens, it does rapidly affect levels of trust. This evidence, although weakly, seems to support the hypothesis of the presence of multiple equilibria regarding violence (see Gaviria 2001).

Regarding other variables, seeking neighbors' help when facing domestic problems, participating in community organizations and in coexistence promotion activities are all associated with stronger interpersonal trust. Both pertaining to a higher

stratum and having higher incomes do increase significantly interpersonal trust (for which supporting evidence is found in social capital studies such as Figueroa, 2002 and Hannon, 2003,), thus indicating that there is an additional gain in terms of trust that money seems to provide (possibly, a stronger sense of belonging to an exclusive group and being able to create stronger and more reliable social networks). Contrary to the case of victimization, heterogeneity (both of education and income) does have now an impact on levels of interpersonal trust. Demographics are also associated with trust: the younger a community is, the lower its level of trust should be expected. In addition, the proportion of women in the community has a very interesting pattern. A higher presence of women tends to decrease both community victimization rates and interpersonal trust. The former clearly reflects a lower presence of typically male offenders. More difficult to explain is their impact on interpersonal trust. A possible explanation found elsewhere (Jeejebhoy 1995) is that women have less opportunities to participate in organizations and events that shape the community decision-making, being mostly responsible for domestic chores. However, estimations already control for their degree of participation in the community life. Whether a larger female presence is a proxy for female-headed households, typically poorer than male-headed households, is also controlled for. Whether the negative sign reflects a dominant *machismo* culture in Colombia that creates a generalized sense of untrustworthiness among females requires further specific study, which is beyond the scope of this paper. Finally, A longer residence in the community contributes to strengthen interpersonal trust, whereas being born in Cali is not significant. Living in a particular district does not have an impact on interpersonal trust except for district 2, where announced plans to bring a more active public presence to deal with violence have not materialized yet.

5. Conclusions

The experience of Cali provides more convincing evidence of a positive, non-perverse, relation between stronger interpersonal trust and lower levels of victimization than for a clear public role in social capital formation. Strengthening interpersonal trust is the single most important determinant to reduce victimization. In turn, victimization levels affect negatively interpersonal trust and increasingly so but only after some

threshold is passed. Perceptions in the community of an effective public presence both reduce victimization and increase interpersonal trust, but the magnitude of these effects is limited. Other public interventions such as campaigns spreading civic messages, promoting peaceful coexistence and improving the performance of public institutions in the community, including police and *casas de justicia*, all have a different impact on victimization and interpersonal trust. In fact, they are proven more relevant than typically assumed in the current victimization literature. In addition, interventions achieving also an increase in interpersonal trust will likely have an additional impact on curbing levels of victimization. Results also point to other areas of possible intervention. Education is critical to both increase social capital and reduce victimization, as it is targeted to a sector of the population, the youth, which commit most of the crimes and show larger interpersonal mistrust. An educational area of further support – in addition to formal education -- is the teaching of life-skills and citizenship competencies. Improving physical infrastructure in the communities may also have high returns in terms of lower victimization and higher interpersonal trust (an effect which is larger on victimization than trust). Also, interventions supporting private and community efforts to form associations, participate in meetings, foster counseling networks all should pay off both in terms of social capital and victimization. These results underscore that even when a public strategy on violence based on punitive interventions -including policing- may lead to declining victimization rates, it represents a missed opportunity to strengthen synergies between public interventions and social capital in violence-ridden communities.

Critical areas that require further analysis are the role that the heterogeneity within a community has on social capital formation and violence; how interpersonal relations within the household affect victimization; why women are associated with lower levels of trust, and the distinctive impacts of social capital formation on different categories of offenses. Contrary to the praxis in previous studies, one can be sure that answering these questions will cast significant clues to crack on violence.

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Table 1: Descriptive Statistics

Variable	Definition	Mean	Standard deviation	Diff. between judicial districts and non-judicial districts (t-test for the difference of means)[1]
Socioeconomic				
Stratum	Socioeconomic categorization of the community from one to six, one being the poorest.	2.31	1.02	26.21 ***
Income level	Eight brackets of household monthly incomes, from less than P 300,000; 300,001-500,000; 500,001-700,000; 700,001-1,000,000; 1,000,001-1,500,000; 1,500,001-2,000,000; 2,000,001-2,500,000; 2,500,001+	2.49	0.80	14.36***
Square of income level	Square of income level	6.87	5.42	12.39***
Education level	Eleven education levels: none; kindergarten; incomplete primary; complete primary; incomplete secondary; complete secondary; technical; technological; incomplete university; complete university; postgraduate/specialty.	5.32	0.95	13.92***
Education Variance	Variance of education level.	1.72	0.57	6.22***
Demographic & Geographic				
Proportion of women	Proportion of women in the community	0.62	0.15	-1.62
Reference: Age 60+	Proportion of individuals aged 60 or plus in the community			
16-29	Proportion of individuals aged 16-29 in the community	0.26	0.15	-2.78***
30-39	Proportion of individuals aged 30-39 in the community	0.19	0.14	-4.73***
40-49	Proportion of individuals aged 40-49 in the community	0.19	0.13	-2.00**
50-59	Proportion of individuals aged 50-59 in the community	0.13	0.11	-3.24***
Born in Cali	Proportion of individuals born in Cali	0.46	0.17	7.13***
Years living in the community	Average number of years of people residing in the community	14.61	5.37	-1.13
Reference: District 4	Note: District 4 has neither *casas de justicia* nor plans to settle them.			
District 1	District 1 –which has 1 casa de justicia (Siloe)- includes *comunas* 1, 18, 19 and 20. Safety programs include sport schools, "Sembremos el Aguacatal", "Nuevas alternativas de educación", promotion of new leaders, renovation of two community parks, "Ecovida activa", and activities towards family integration.	0.24	0.42	n.a.
District 2	District 2 –with plans to establish casas de justicia- includes *comunas* 8,10,11, and 12.	0.26	0.44	n.a.

District 3	District 3 –with 1 casa de justicia (Aguablanca)- includes comunas 13, 14 and 15. Programs include: "Promoción de la convivencia escolar y familiar para la prevención de la violencia intrafamiliar en colegios", "Pongamos de Moda la Convivencia", "Fortalecimiento de las Juntas de Acción Local como escenarios democráticos de conviencia y paz", "Fortalecimiento de la convivencia pacífica", "Programa de fortalecimiento a los procesos organizativos juveniles como una alternativaa de economía solidaria", "Prevención de la Drogadicción de Jóvenes Vulnerables", "Programa de Promoción de la Convivencia y Desarrollo Comunitario en Charco Azul", "Programa de Desarrollo Sociocultural como una Estrategia para el Mejoramiento de la Convivencia en Charco Azul"	0.26	0.44	n.a.
Violence related variables				
"Broken Windows"	Index (0-100) capturing the reported perception that robberies, brawls among gang members, consumption and trafficking of drugs, business engaging in illicit activities are present and cause insecurity in the community.	10.81	10.43	-4.82***
Variance of broken windows	Variance of the broken windows index	24.06	18.70	-5.82***
Trouble youth	Index (0-1) capturing the reported perception that unemployed and troubled youths cause insecurity in he community	0.34	0.21	-12.33***
Victimization in the community	Average number of reported victimization cases among individuals pertaining to the community. The index adds up the number of instances in which a person was victim of one, some or all the following events: robbery, threats, beatings, beatings by police, injuries, sexual abuse, property damage, kidnapping, murder and domestic violence. Community averages range from 1 to 7.2 cases.	1.17	0.96	-6.30***
Square of victimization in the community	Square of the victimization variable.	11.84	36.89	-6.15***
Public presence				
Exposure to civic messages index	Index (0-100) capturing whether individuals have been exposed to civic campaigns and have been transmitted civic messages such as be kind, respect for others, respect for the culture of Cali, respect transit norms, no urinate in the streets, no disposal of garbage in the streets, trust people, and respect queues.	17.82	10.68	1.58
Participation in coexistence promotion initiatives	Index (0-1) of participation of individuals in the community in peaceful coexistence initiatives such as forums, workshops, family meetings, festivals, among others, in the last 12 months.	0.09	0.11	-9.41***
Evaluation of police activities in the community	Reported evaluation of the performance (0-1) of the police in issues related to peaceful coexistence and security of the community.	0.57	0.08	-5.83***
Evaluation of *casa de justicia*	Reported evaluation of the performance (0-1) of the *casa de justicia* that individuals go or have the closest regarding pacific coexistence and security of the community.	0.63	0.10	-7.32***
Institutional presence index	Index (0-100) capturing the degree that the presence of the public institutions and the police contribute to a safe community	37.81	15.39	-4.92***

Perceptions, attitudes and participation regarding community				
Interpersonal trust	Index capturing the reported trust in "most" of the people in the community; the belief that people do not take advantage of others; and the belief that people are ready to help those in need. Degree of believes are standardized to add up to an index between 0 and 1.	0.54	0.12	9.22***
Attend community institutions	Probability that an individual attends to community institutions in case of abuse by partner, abuse to children, sexual abuse to minors, negligence to minors, abuse of the elder.	0.95	0.04	0.61
Resort to neighbor if in need	Probability of resorting to a neighbor in case of a problem with a relative.	0.24	0.14	-4.29***
Participation in community organizations	Index capturing the participation in community organizations such as religious, political, cultural, economic, social, community management and others. Participation in individual organizations are added up and standardized over an index between 0 and 1 to capture the density of participation within the community.	0.17	0.15	2.52**
Pacific conflict resolution index	Index (0-100) capturing the probability that a person resorts "always or almost always" to peaceful ways to resolve or intermediate conflicts. These ways refer to relatives, friends, neighbors, other community members and institutions to deal peacefully with problems.	37.42	9.48	-2.34**

([1]) T-test reports the statistic for a test on the difference of means of the incumbent variable for the districts without judicial programs (2 and 4) vs. those with judicial programs (1 and 3).

Table 2: Social Capital Formation and the Incidence of Violence in Cali

	Social Capital Formation Interpersonal Trust in the Community			**Incidence of Violence** Index of Community Victimization		
	2SLS	*3SLS*		*OLS*	*2SLS*	*3SLS*
Socioeconomic						
Stratum	0.0265 (0.0045)***	0.0399 (0.0047)***		0.1855 (0.0420)***	0.1411 (0.0538)***	0.2889 (0.0454)***
Income level	0.0346 (0.0157)**	0.0527 (0.0213)**		-0.4993 (0.1476)***	-0.4923 (0.2111)**	-0.0015 (0.1674)
Square of income level	-0.0052 (0.0024)**	-0.0076 (0.0033)**		0.1051 (0.0230)***	0.1052 (0.0314)***	0.0058 (0.0274)
Education level	0.0108 (0.0045)**	0.0014 (0.0044)		-0.1049 (0.0396)***	-0.1296 (0.0397)***	-0.0803 (0.0410)*
Education Variance	-0.0265 (0.0050)***	-0.0423 (0.0054)***		-0.1447 (0.0475)***	-0.0744 (0.0689)	-0.3037 (0.0545)***
Demographic & Geographic						
Proportion of women	-0.1128 (0.0185)***	-0.0877 (0.0187)***		-0.1503 (0.1751)	0.2301 (0.1873)	-0.4357 (0.1963)**
Reference: Age 60+						
16-29	-0.1134 (0.0297)***	-0.1557 (0.0299)***		0.8017 (0.2485)***	1.6980 (0.3172)***	0.8285 (0.3288)**
30-39	-0.0742 (0.0298)	-0.1151 (0.0336)***		1.2844 (0.2449)***	1.8253 (0.2924)***	0.0401 (0.3000)
40-49	-0.1071 (0.0303)***	-0.1163 (0.0324)***		1.0694 (0.2801)***	1.5022 (0.2748)***	-0.0087 (0.3154)
50-59	-0.1484 (0.0311)***	-0.2104 (0.0318)***		0.0381 (0.2844)	0.5220 (0.2866)*	-1.2965 (0.3348)***
Born in Cali	0.0154 (0.0184)	0.0318 (0.0181)*				
Years living in the community	0.0043 (0.0006)***	0.0025 (0.0005)***				
Reference: District 4						
District 1	-0.0299 (0.0092)***	0.0099 (0.0089)		0.5868 (0.0841)***	0.6976 (0.0960)***	0.4962 (0.0896)***
District 2	-0.0531 (0.0077)***	-0.0455 (0.0074)***		0.0032 (0.0715)	0.1152 (0.0761)	-0.1425 (0.0802)*
District 3	-0.0135 (0.0101)	-0.0009 (0.0095)		0.1428 (0.0878)	0.2484 (0.0761)***	0.0678 (0.0923)
Violence related variables						
Broken Windows	-0.0022 (0.0007)***	-0.0001 (0.0007)		0.0401 (0.0067)***	0.0518 (0.0091)***	0.0275 (0.0071)***
Variance of broken windows	0.0007 (0.0004)*	0.0001 (0.0004)		-0.0171 (0.0037)***	-0.0222 (0.0041)***	-0.0109 (0.0039)***
Trouble youth	-0.2438 (0.0163)***	-0.2046 (0.0226)***		0.7220 (0.1625)***	1.4684 (0.2409)***	0.0826 (0.2419)
Victimization in the community (index)		-0.0221 (0.0191)				
Square of victimization in the community		-0.0006 (0.0003)*				
Public presence						
Exposure to civic messages index	-0.0005 (0.0002)**	-0.0003 (0.0002)		0.0013 (0.0025)	0.0019 (0.0024)	0.0023 (0.0025)
Participation in coexistence promotion initiatives	0.1105 (0.033)***	0.1698 (0.0319)***		-0.7623 (0.2747)***	-1.4757 (0.3252)***	0.5493 (0.3466)
Evaluation of police activities in the community	-0.1666 (0.0404)***	-0.1956 (0.0429)***		-1.2416 (0.3735)***	-0.9207 (0.4117)**	-1.7521 (0.3927)***
Evaluation of casa de justicia		-0.0318 (0.0257)				

Institutional presence index	0.0009 (0.0002)***			-0.0038 (0.0018)**	-0.0062 (0.0016)***	-0.0058 (0.0018)***
Perceptions, attitudes and participation regarding community						
Interpersonal trust				-1.3674 (0.2613)***	1.7789 (0.9090)**	-4.9342 (0.8113)***
Attend community institutions	0.0877 (0.0680)			1.2936 (0.6255)**	1.0682 (0.5215)**	1.7247 (0.5777)***
Resort to neighbor if in need	0.1589 (0.0203)***	0.1454 (0.0199)***				
Participation in community organizations	0.0888 (0.0185)***	0.0415 (0.0205)**				
Pacific conflict resolution index	0.0007 (0.0003)**			0.0116 (0.0028)***	0.0078 (0.0029)***	0.0067 (0.0026)**
Constant	0.5162 (0.0818)***			1.0559	-1.2957 (0.8839)	3.8390 (0.9675)***
No. of observations	1196	1172		1196	1196	1172
F(25, 1170)	45.40***			24.26***		
R^2	0.5024	0.4756		0.3225	0.2365	0.2593
Partial R^2	0.0997					
F(4, 1169)	32.37	Chi^2:595.18				Chi^2: 1461.37
Prob>F	0.000	0.000				0.000
Heteroskedasticity (H_o Disturbance is homoskedastic) – Pagan-Hall General Test	71.801 P-value: 0.000 H_0 Rejected				Hansen Jstat P-value H_o Over-identification of instruments	5.879 0.1176 Accepted
Hausman Test Chi^2 (21) Prob > Chi^2 H_o: difference in coefficients from OLS and 2SLS is not statistically significant Efficient Estimator	 33.59 0.0713 Accepted 2SLS			Hausman Test Chi^2 (23) Prob > Chi^2 H_o: difference in coefficients from 2SLS and 3SLS is not statistically significant Efficient Estimator		 1412.67 0.0000 Rejected 3SLS

Table 3: Instruments Tests

	Partial R^2	Test of excluded variables F(r,n)	Hansen J test (p-value)	H_o: Over-identification of instruments	C-test	H_o: Exogeneity of instruments
Born in Cali Years of residence in the community Participation in community organizations Resort to neighbor if in need	0.0997	32.37 ***	5.879 (0.1176)	Accepted	5.868[a] (0.0532) 5.077[b] (0.0789)	Accepted Accepted
Born in Cali Years of residence in the community Participation in community organizations Resort to neighbor if in need Attend inter-family meetings	0.1458	39.87***	9.448 (0.0508)	Accepted	9.437[c] (0.0240)** 8.622[d] (0.0347)**	Rejected Rehected

Notes: N=1196. All tests conducted at 5%.

Reported C-tests over groupings of instruments: ([a]) Born in Cali and Years living in community ([b]) Participate in community organizations and Attend to community organizations ([c]) Born in Cali, years living in community and meet with other families in the community ([d]) Participate in community organizations, attend to community organizations and meet with other families in community. Other combinations of C-tests did not alter these results.

Table 4: Interpersonal trust and victimization elasticities

	Interpersonal trust		*Victimization*
Socioeconomic			
Stratum	0.0377***		0.2804***
Income level	0.0915**		-0.0260
Square of income level	-0.0135**		0.0095
Education level	0.0055		-0.0739*
Education Variance	-0.0455***		-0.3077***
Demographic & Geographic			
Proportion of women	-0.0777***		-0.4559**
Reference: Age 60+			
16-29	-0.1232***		-0.8090**
30-39	-0.1638***		0.0796
40-49	-0.1624***		-0.0407
50-59	-0.1801***		-1.2521***
Born in Cali	0.0530*		
Years living in the community	0.0031***		
Reference: District 4			
District 1	0.4657		0.4657***
District 2	-0.1595***		-0.1595*
District 3	0.0367		0.0367
Violence related variables			
Broken Windows	-0.0018		0.0262***
Variance of broken windows	0.0010		-0.0105***
Trouble youth	-0.2853***		0.1056
Victimization in the community (index)	-0.0017		
Square of victimization in the community	-0.1732*		
Public presence			
Exposure to civic messages index	-0.0008		0.0015
Participation in coexistence promotion initiatives	0.2009***		0.4681
Evaluation of police activities in the community	-0.1732***		-1.841***
Evaluation of casa de justicia	-0.0415		
Institutional presence index			-0.0038***
Perceptions, attitudes and participation regarding community			
Interpersonal trust			-4.8990***
Attend community institutions			2.3503***
Resort to neighbor if in need	0.1831***		
Participation in community organizations	0.0083**		
Pacific conflict resolution index			0.0097**
No. of observations	1172		1172
R^2	0.4756		0.2593
Chi^2	595.18		1461.37
Prob>F	0.000		0.000

Note:: Elasticities from 3SLS estimates.

Appendix 1: Literature review of studies on violence and social capital

Study	Sample	Definition of social capital	Relation of social capital and …	Nature of the relation?	Estimates
Lederman, Loyaza and Menendez (2000)	39 countries averaging data for the 1982-4 and 1990-93 rounds of the World Values Survey and Muller and Seligson (1994) data on Central American countries.	Proxied by voluntary involvement in communal organizations and attitudes best proxied by prevalence of trust on other community members, the importance of religion in the individual's life and the propensity to civic cooperation	Violent crime (homicide rates)	Test both relations, that is, unidirectional (social capital on crime) and bi-directional	The single equation estimate shows that only participation in voluntary social organizations is significant although has a positive correlation with crime. Instead, trust has the expected negative sign but is not statistically significant. In the simultaneous estimation, social capital is instrumented by regional dummies and number of telephones per capita and radios per capita in the country. Tests are reported as inconclusive to the adequacy of such instruments. Trust is the only significant social capital related variable: 1% increase in the number of survey respondents who believe that most people can be trusted can be associated with a 1.21% decline in the homicide rate. Other social capital indicators do not show a statistically significant effect. Inequality has the most substantial significant effect on violent crime rates (4.9% increase following increases of 1 percent point). Growth rates are implausible high.
Fajnzylber, Lederman and Loyaza (2000)	45 countries 1970-1994 from United Nations World Crime Surveys in five-year averages	Not included as such but culture is taken into account through religion and geographical dummies	Impact of 'cultural' proxies on homicides rates	Unidirectional	Regional variables are neither significant for homicides nor robberies while religion variables are for homicides. Economic growth, inequality and past crimes are robustly significant.
Gaviria and Pages (2002)	17 Latin America & the Caribbean countries from Latinobarómetro. 1996, 1997 and 1998	Not identified	Social capital and cultural aspects are reported to be potentially important but not changing drastically over time. So, for a dynamic study it does not explain any variation of victimization (victim of crime)	Implicitly a unidirectional one that does not change over time. Nevertheless, trust in police is included in the analysis.	City growth increases the crime rate by 1.5 related not to the (socioeconomic) characteristics of the individuals but more to do with increasing the probability of a larger share of crime-prone individuals or by reducing the effectiveness of law enforcement institutions.
Moser (1996)	Anecdotal evidence in developing countries	Broadly defined as networks, norms and trust	Violence	Bi-directional	While violence deteriorates labor, human capital, family relations and social capital, rebuilding the stocks of social capital is also expected to prevent violence in programs like counseling on conflict resolution and drug abuse and on programs targeted to youth at risk
Gaviria (2001)	Colombia. 25 departments. 1988.	Perverse social capital	Violence	Perverse social capital spread violence while violence degrades human nature	Empirical estimates on the determinants of the violence variance do not include social capital
Llorente and Chaux (2004)	Colombia. Bogotá. 2003	Not specifically included but proxied by interactions with troubled friends	Membership to gangs	Uni-directional	Interacting with troubled friends is a statistically significant determinant that increases the probability of a youngster pertaining to a gang.
Londoño (1996); Londoño and Guerrero (1999)	Colombia; all 28 departments in the country. 1996.	Index of trust in family, neighbors and friends plus spontaneous voluntary collaboration and participation in community organizations	Effect of social capital on departmental homicide rates	It is conceived as unidirectional. (social capital destruction caused by 'economic development patterns')	Increases of social capita decreases the homicide incidence in the department. 1std deviation in the index of social capital reduces –0.52% of the log of homicides. Factors such as alcohol consumption also have a significant impact.
Rubio (1997)	Colombia (no empirical analysis)	Perverse social capital	Rent-seeking and criminal behavior	Bi-directional or a vicious circle	No empirical analysis, but the review of literature suggests that the effect on juvenile crime from perverse social capital may be

					substantive.
World Bank (2000) Moser and Holland (1997) Moser and Shrader (1998)	WB (2000): Colombia M&H(1997): Jamaica - 1997 M&S(1998): Colombia.	Broadly interpreted as norms, rules, obligations, reciprocity and trust embedded in social relations and institutions	Violence	Bi-directional	No empirical analysis, but there is a recognition that violence destroys social capital while social capital formation is a recommended strategy to build peace to conduct at the municipal level.
Colleta and Cullen 2002	Cambodia 1998 Community-level study (2)	Trust and 'social cohesion' composed of community events, informal networks, participation in associations, relations with the village leader, and links with external agencies (NGOs, private sector)	Violent conflict	Uni-directional	Study reports the destruction of social capital as a consequence of the conflict and the State overpowering at the community level. However, there is no report of the exact quantitative destruction caused.
Colleta and Cullen 2002	Rwanda 1998-9 Community-level study (2)	Social cohesion measured by the nature of organizations and networks. Perverse social capital formation	Violent conflict	Uni-directional	Conflict does not simply 'destroy' social capital but 'transforms' it into perverse social capital linked to ethnicity. No quantitative report on the magnitude of the transformation.
Colleta and Cullen 2002	Somalia and Guatemala 1998-9 Community-level study (2 for each country)	Participation in community organizations; village leadership; trust; social responsibility	Violent conflict	Uni-lateral	Predating States destroy social capital and all type of communities livelihoods in a spiral of violence and control, to the point of destroying the bases for the sustainability of the State.
Glaeser, Sacerdote and Scheinkman 1996	US cities and precints of New York City.	Social interactions, that is, number of peoples involved and interrelating in the commission of any act.	Differences in rates of several crimes across urban locations	Uni-directional	The amount of social interactions is highest in petty crimes (average social group size of around 200 individuals), moderate in more serious crimes (100) and almost negligible in murder and rape (1 or 2)
Brehm and Rahn 1997	US 1972-1994 data from the General Social Survey.	Interrelations between civic engagement (i.e., participation in civic organizations) and interpersonal trust.	Relations between civic engagement and interpersonal trust	Bi-directional between engagement and trust, but trust contains (uni-directionally) victimization variables (robbery and burglary during last year)	Neither robbery nor burglary had statistically significant impacts on interpersonal trust (at 5%)
LaFree 1998	US, National Crime Victimization Surveys 1973-1996; Uniform Crime Reports 1948-1997.	Societal institutions, defined as norms, values, statuses, roles and organizations that define and regulate human conduct through social control	Crime	No empirical analysis	Declines in crime rates are associated with support to social institutions, in particular, political and crime justice institutions.
Rosenfeld, Messner and Baumer 1999	US 1990 from General Social Survey	Civic engagement and social trust	Homicide rates	Bi-directional	IV estimation. No evidence of statistically significance at 5% of social capital on homicide rates nor homicides on social capital. Validity of instruments not reported.

Note: None of the "classic" works on social capital (by Banfield, Putman, Coleman or Fukuyama) attempt to empirically measure the relation between social capital and crime.

[1] Having tested for the validity of the used instruments, these are generally accepted only at 10%. In addition, endogeneity appears unsolved for some indicators of social capital, such as both membership and participation in any type of voluntary organization and membership in secular organizations. In another study, Gaviria and Pages (2002) model crime and social capital implicitly assuming that social capital does not affect changes in crime rates over time. Other studies for Colombia such as Velez & Banguero (2001) or Llorente & Chaux (2004) estimate univocally the determinants of victimization and probability of pertaining to violent gangs, respectively, without including directly social capital variables. See Appendix 1 for a review of these studies.

[2] Of course, it does not follow that players other than the public are better positioned to form social capital. Even when there is a clear role for the organized civil society to help form social capital, their effectiveness may be seriously limited if strong NGOs are the result of a highly polarized and deadlocked political system (Diamond 1994), do not necessarily respond to representation (Fukuyama 2000) or are primarily financed by international organizations (Carroll 2001).

[3] Gaitán (1995:330) estimates that the probability of being sent to prison was so low in the early Nineties -- at 3% for homicides and 1% for robberies -- that criminals could expect literally to get away with their offenses. However, this author also notes that only 10% of homicides in Colombia during the Nineties could be directly attributed to drugs trafficking. Amnesty International (1994:9) notes that the perception of drugs as the main cause of violence in Colombia is a "myth".

[4] See Appendix 1 for a list of interventions in each district.

[5] Instrument to Evaluate Early Impacts on the Program to Support Peaceful Coexistence and Citizen Security in Cali. Authors' translation. *Instrumento para la Evaluación de Impactos Tempranos del Programa de Apoyo para la Convivencia y Seguridad Ciudadana.*

[6] Other surveys on victimization were collected (also by Cisalva) in 1996 in Cali, Bogotá, Medellín, Bucaramanga, Pereira y Barranquilla but did not enquire about social capital formation. A more recent survey by the Universidad de los Andes in Bogotá, Barrancabermeja and Barranquilla –which collects information on perceptions, attitudes and behaviors- is concentrated only on intrahousehold violence.

[7] The partial R^2 in Table 3 indicates the degree to which the instruments selected are correlated with the instrumented variable. Similarly, the test of excluded variables indicates the joint significance of the instruments vis a vis an specification without them. The Hansen J statistic permits to test whether the errors of the instruments are orthogonal with the error term of the endogenous variable. If all these tests are passed, instruments are not only relevant but also valid proxies of social capital.

[8] This explanation cannot be tested against other possibilities such as that people do not tend to recognize violent behavior even when they typically exert it, or, perhaps more unlikely, perpetrators of criminal and violent offenses do not translate that behavior in domestic contexts. However, we found some evidence supporting misleading reporting on attitudes regarding violence, or at least, some inconsistencies in the degree of tolerance to violence. Thus, 77% of the interviewees believe both that a person has the right to kill someone if relatives or properties are in danger in addition to carrying a gun increases his or her safety. 37% of respondents report to resort "always or almost always" to pacific ways to resolve personal conflicts. Yet, only 5% indicates that they tolerate physical or psychological to deal with conflicts with one's partner.

[9] Table 1 shows that victimization rates in districts 1 and 3 are statistically larger than 2 and 4. Also, these rates are significantly larger in district 1 than in 3 (ttest: -4.82, F>prob=0.0).